PTV Visum 14 Release Notes

PTV GROUP
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http://vision-traffic.ptvgroup.com/en/support_visum

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New Features and Changes

COM

- List 'Arrivals / departures': It is now possible to produce a list of arrivals/departures at all stop points by passing an empty object of type VARIANT to the 'SetObjects' method of the IStopPointTimeTableList COM object. **(14495)**

Data model

- New attribute 'CurrentModeChoiceMatrix': At the procedure parameter object 'EVAModeDStratModeChoicePara' ('EVA distribution/mode choice'), a calculated attribute 'CurrentModeChoiceMatrix' has been added, which issues the number of the matrix currently indicated by the matrix reference (or 0 if no or no unique matrix is indicated by the matrix reference). **(14550)**

Graphical Procedures

- Recalculating a flow bundle: If a flow bundle includes filter condition 'Active links' or 'Active lines', the 'Execute' button of the flow bundle is now active as soon as the filter is changed, so that the flow bundle can be recalculated based on the new filter result. **(14597)**

Fixed Bugs

Add-Ins

- Add-In 'Google Maps': The display of a node in Google Maps with the Add-In 'Google Maps' now works again after the necessary URL has been adjusted to the current requirements. **(14648)**
- Matrix references in 'EVA evaluation' Add-In: The Add-In 'EVA evaluation' did not work if one of the relevant procedure parameters contained a matrix reference which used the keyword 'Context'. This error has been fixed. **(14551)**

Data Model

- Attribute VistroShareHGV: Attribute 'VistroShareHGV' was renamed 'ShareHGV' but the change of name was not announced as such, so that older files could not be read in any more. This error has been fixed. **(14713)**
- Number of lanes of links within a main node: The value of the attribute 'Number of lanes' could not be edited under certain circumstances for links inside of main nodes. This error has been fixed. **(14688)**

Demand Procedures

- EVA distribution/mode choice: Running the EVA distribution/mode choice procedure no longer leads to a crash if no mode choice matrix has been specified or when performing balancing, however the matrices specified in the matrix reference do not exist yet. **(14682)**

Dialogs

- Bar pages of graphic parameter dialogs: In specific cases, Visum used to crash when exiting the dialog or when switching from the page for bars to a different dialog page in one of the different graphic parameter dialogs (network graphic parameters, graphical timetable, schematic line diagram, transfers display of regular services). This has been fixed. **(14663)**

Dialogs, Demand Procedures

- Insertion in aggregated grid cells: The program no longer crashes if you insert a utility definition in a demand procedure parameters dialog while the view is aggregated. **(14683)**

Graphical Procedures

- Flow bundle and filter for PuT paths: The calculation of the flow bundle volume considered conditions on OD pairs in the OD pair filter, however, it did not consider the conditions on PuT paths in the same filter. This error has been fixed. **(14681)**

Listings

- Analysis rows: While the values of analysis rows in listings were recalculated in the background, several actions (e.g. splitting a link) could lead to a different data basis and cause the computation to crash. **(14652)**
- Listing 'Territory PuT detail objects' with synchronization: A crash no longer occurs when marking all objects of the list 'Territory PuT detail objects' by a click on a column header if the list is synchronized with the network editor. **(14647)**

Main Window

- Restoring the window configuration upon program start: The restoration of the window configuration upon program start is now more robust against corrupt data in the registry. **(14646)**

Network Editor

- Edit functionalities and graphics tools: If a graphics tool (for example flow bundle) was selected, some of the edit functionalities (for example Multi-edit or Renumbering) were not available so far. Now all edit functionalities are provided which can be combined with the respective tool. **(14406)**
- Marked PrT paths: A crash no longer occurs if you open a version file (with selection dialog for PrT paths open) while a PrT path is marked. **(14710)**
- Network check: Some of the network check functionalities could not be cancelled and returned no information on the progress in the progress dialog. This error has been fixed. **(14675)**

PrT Assignment

- Wait time calculation for signal control with volume 0: The wait time calculation for signal-controlled nodes according to HCM 2010 returns 0 if no volume exists. However, this prevents convergence during assignment with ICA in case of wait times. Therefore, a very small volume is now assumed in this case for the calculation (corresponds approximately to the approach in HCM 2000). **(14623)**

PuT Assignment

- 'Impedance' indicator in headway-based assignment: The number of fare points always entered the indicator 'Impedance' calculated with the headway-based assignment, even if the 'Fare' option had been selected for the impedance. This error has been fixed. The assignment procedure itself used the correct value. **(14655)**
- Fares for zone-based fares: If option 'Fare zones being traversed multiple times are counted multiple times' was set for the ticket type in case of a zone-based fare, the number of fare zones used within the assignment was sometimes calculated too high, which affected the distribution to the paths. However, the number of fare zones displayed as attribute of the PuT path was correct. This error has been fixed. **(14654)**
- Parallel calculation of the number of fare zones: Calculating the number of fare zones with more than one core no longer causes a crash. **(14715)**

Timetable Editor

- Click behavior of the graphical timetable: The click behavior of the graphical timetable has been improved:
  - The tolerance zone around the vehicle journeys has been enlarged.
  - Right-click marks objects so that the shortcut menu can be opened directly.
  - Click marks an object before it is released so that a vehicle journey can be clicked and directly moved to a different time when holding down the mouse button. **(14429)**
- Shortening a vehicle journey with a shortened vehicle journey section: If a vehicle journey consisted of a single, yet shortened vehicle journey section, and the vehicle journey had been shortened via dialog 'Edit vehicle journey' in such a way that the course used by the vehicle journey section was removed, Visum used to crash, because the vehicle journey section and thus the vehicle journey itself were deleted. Now, the vehicle journey section is initialized in this case and thus placed on the entire remaining course of the vehicle journey. **(14656)**
- Switching between stop reference and stop point reference: When changing a stop sequence from a stop point reference to a stop reference, attributes of the stop sequence items (for example 'Double-row display', 'Draw object') were lost. Furthermore, if, in the original stop sequence, two or more stop points of the same stop had allocations for a line route, these allocations were lost. Both errors have been fixed. **(14639)**

Transfers display of regular services

- Screenshot with marking: The screenshot functionality did not refresh the marking so far, i.e. if the marking had changed and a second screenshot was generated, the screenshot still displayed the marking that was valid during the first screenshot. This error has been fixed. **(14599)**

VISUM Files

- To length of line route items from network file: If a network file contains a To length > 0km at the last line route item of a line route, when reading the network file, a warning is issued stating that this value is ignored. However, this value was still imported. This error has been fixed. **(14642)**

Breaking Changes

PrT Assignment

- Wait time calculation for signal control with volume 0: The wait time calculation for signal-controlled nodes according to HCM 2010 returns 0 if no volume exists. However, this prevents convergence during assignment with ICA in case of wait times. Therefore, a very small volume is now assumed in this case for the calculation (corresponds approximately to the approach in HCM 2000). This changes the results of the assignment with ICA. **(14623)**

PuT Assignment

- 'Impedance' indicator in headway-based assignment: The number of fare points always entered the indicator 'Impedance' calculated with the headway-based assignment, even if the 'Fare' option had been selected for the impedance. This error has been fixed. This changes the skim matrix for the impedance in the headway-based assignment when selecting the 'Fare' option. The assignment procedure itself used the correct value. **(14655)**
- Fares for zone-based fares: If option 'Fare zones being traversed multiple times are counted multiple times' was set for the ticket type in case of a zone-based fare, the number of fare zones used within the assignment was sometimes calculated too high, which affected the distribution to the paths. However, the number of fare zones displayed as attribute of the PuT path was correct. This error has been fixed. This changed the assignment results regarding the distribution to the individual paths. **(14654)**

14.00-10 [94372] 2015-02-12

New Features and Changes

Dialogs

- Deleting user-defined attributes at POIs: If you delete user-defined attributes at POI categories, the program asks whether you also want to delete attributes of the same name at subordinated POI categories. At this point, you can now cancel, i.e. the user-defined attribute is kept. **(14516)**

Foreign Formats

- Personal geo database: For a connection with a personal geo database, Visum now also supports the ArcGIS versions 10.1 to 10.3. **(12130)**

Scenario Management

- Unintentional rounding in modifications: So far, the network settings for the number of decimal places for decimal numbers applied (as elsewhere) when creating model transfer files for the representation of a modification. If the option 'Always output floating point numbers with maximum precision' was not checked here, values were rounded to the set number of decimal places. Now these settings do not apply any more, i.e. model transfer files are always output with maximum precision in the context of scenario management. **(14574)**

Fixed Bugs

COM, Listings

- I...List.SaveToArray for network objects: If you called the SaveToArray method on a COM list object which represented the list for a network object type of which no object presently existed in the network, the resulting array had an empty entry as of PTV Visum 14.00-09 (and thus was no empty array any more). This error has been fixed. **(14594)**

Data Model

- To length at line route items: So far, you could not set the To length to 0 for line route items which were no route point or the last item of the line route, even though this is the expected value and all other entries would be data errors. This error has been fixed. **(14641)**

Filters

- Filter for OD pairs and flow bundle: A crash no longer occurs when terminating Visum while a network is loaded in which a flow bundle has been calculated and a filter for OD pairs is active with option 'Filter network volumes' on. **(14564)**

Foreign Formats

- HAFAS import: Up to HAFAS version 5.20.36, a comment sign had to be placed at the 59th position of a route course row in the timetable file ('FPLAN') which was shifted to the 60th position with version 5.40. In Visum, route course rows with a comment sign at the 59th position were still not interpreted correctly. This error has been fixed. **(14636)**
- Importing PuT supply from Visum: If the import of a PuT supply from Visum generates missing links and nodes, and a node with a stop point on top and a connecting link are created more than once for the same origin stop point because the origin stop point can be reached from several directions (a line route begins here and another one ends here coming from a different direction), several nodes and stop points were created so far, so that there was no connection between the new links. No other line route running through this origin stop point could then be inserted. This error has been corrected by reusing the newly inserted node and stop point from other directions. **(14536)**

Graphical Procedures

- Flow bundle after repeated assignment: The 'Execute' button used to stay disabled if you calculated a flow bundle and then repeated the underlying assignment (PrT or PuT). As a consequence, you could not repeat the flow bundle calculation on the basis of the new assignment result with unchanged flow bundle conditions. This bug has been fixed. **(14320)**

Graphics

- Drawing line routes: Drawing line routes no longer causes a crash if the line route uses link stop points on links with polygon length 0. **(14592)**
- Drawing polygons: Very rarely, drawing polygons used to cause a crash. This has been fixed. **(14568)**

Junction Editor

- Adjustment of the column width: If you changed the number of the displayed node, the width of the (only) column in the junction editor used to be adjusted to the new data. The value, however, was too low. The column width is no longer adjusted. **(14553)**

Listings

- Extended input options: The switching behavior of the extended input options via the list menu of a list is not correct, i.e. if the extended input options are switched on, they are deactivated and vice versa. This error has been fixed. The global switching via the user preferences, however, worked properly. **(14537)**
- PrT path list with indirect attributes: The access to the PrT path list is very slow if it cotains indirect attributes of links. This has been fixed. Therefore, especially the export of the list to an attribute file is now considerably faster (about factor 30). **(14583)**
- Valid day list with indirect attributes: Displaying a valid day list with indirect attributes of vehicle journey sections no longer causes a crash if analysis rows are switched on. **(14617)**

Main Window

- Behavior in case of keyboard entries: If a specific view did not support the keyboard entries 'Del' or 'Enter', i.e. the command did not trigger any action in that window, up to now, the command entry triggered the corresponding action in the main window instead. Hence, the 'Edit' dialog of the globally marked network object was opened or the object was deleted. This error has been fixed. **(13663)**

Matrix Editor

- Allocation of a combination of matrices and vectors: The allocation of a combination of vectors and matrices to a matrix in the 'Matrices' tool window did not succeed when using a function with more than one operand. This error has been fixed. **(14598)**

Miscellaneous

- Connection to dongle: In specific constellations, problems regarding the name resolution in the network occurred when connecting to the CodeMeter server. This error has been fixed. **(14559)**
- Licenses in terminal server environments: The restriction of the number of Visum instances used simultaneously in a session did not work correctly in terminal server environments. If several instances were started in a session, each of them used a separate license. This has been corrected, so that up to five instances can be started with one license. Instances in different sessions each use a separate license. **(14446)**

Network comparisons

- Version comparison with attributes from the comparison network: When creating a version comparison with option 'Use attributes from comparison network', so far, empty values of numerical attributes contained in the comparison network became 0 and could not be identified as empty values any more. This error has been fixed. **(14573)**

PuT Operating Indicators

- Number of service trips at course items: In case of couplings, indicator 'Number of service trips (AHPI)' for course items (line route items, time profile items, vehicle journey items) did not consider whether a coupling was effective, i.e. whether the coupling partner operates on the same calendar day or not. This led to low values in some cases. This error has been fixed. **(14546)**

Schematic line diagram

- Dashed lines: For dashed line styles also, the width of a line unit is specified in raster units in the schematic line diagram. So far, such line styles did not rescale. This bug has been fixed. **(14464)**
- Labels of transfer nodes: In the schematic line diagram, only the attribute values and not the attribute names were drawn for labels of transfer nodes even if, in the text format, you specified that titles shall be displayed. The format and units were ignored as well. This error has been fixed. **(14458)**

Timetable Editor

- Update of the timetable lines / line block selection: The line selection tree in the tool window 'Timetable lines' as well as the line block tree were not refreshed if you renamed one of the displayed objects. This error has been fixed. If you rename an object, the correct name is now displayed. However, the object is not moved to a different position of the tree right away so that the edited object can still be seen. Only if you collapse and expand the superordinate entry in the tree, the object is moved to the new position. **(14451)**

Transfers display of regular services

- Synchronization mode: When restoring a transfers display of regular services while opening a version file, the displayed (and previously saved) synchronizsation mode sometimes differed from the actually used synchronization mode. This error has been fixed. **(14576)**

VISUM Files, Foreign Formats

- Reading network files for node geometry: If a reference object was not found in the tables of the node geometry (for example lanes, lane turns, ...) while reading a network file, the process was cancelled so far instead of skipping the affected line as in case of other objects. This also affected the SATURN import which generates node geometry objects. This error has been fixed. **(14571)**

14.00-09 [93602] 2015-01-21

New Features and Changes

Add-Ins

- Add-In 'Import TransCAD Network': The 'Import TransCAD Network' Add-In no longer crashes if the shape files for stops and line routes contain inconsistent routeIDs. Furthermore, the headway attribute is now read correctly and the Add-In has been accelerated slighty. **(14504)**

Data Model

- Line block number and line block day at vehicle journey section: At vehicle journey sections, you can now output the line block number and line block day which serve the vehicle journey section for a block version and a calendar day. **(14253)**
- Additional attributes at valid day: Additional calculated attributes are provided at valid days:
  - for each weekday the number of occurences on days which have this day of the week
  - the first and the last calendar day on which this day of the week occurs, each as day index or readable date (in case of an annual calendar) **(14540)**

Demand procedures

- Tour-based model with rubber banding: The execution of the procedure 'Tour-based model - Combined trip distribution / mode choice' with rubber banding on has been accelerated. **(12956)**

Dialogs

- Matrix selection dialog: The lower section of the dialog page 'Select matrix by properties' of the matrix selection dialog now displays a note if the matrix reference is too complex to be displayed as a table here. **(14445)**

Listings

- Copying analysis rows: In lists, analysis rows (sum, average, ...) are no longer headers but regular rows with a specific background color. The values cannot be edited. You can, however, mark cells and copy them to the clipboard. **(11388)**

VISUM Files

- RBC signal groups in model transfer files: So far, when reading in model transfer files, associated pedestrian signal groups were deleted together with RBC signal groups although the deletion of pedestrian signal groups is also coded in the model transfer file. This error has been fixed. **(14513)**

Fixed Bugs

Data Model, Network Editor

- Visum no longer crashes if an invalid time profile is generated while inserting or rerouting a line route, because the PuT run times of the newly traversed links become too high in total. Should the occasion arise, the line route is now generated without a time profile. You can add a time profile manually later on. **(14497)**

Dialogs

- 'Edit utility definitions' dialog of the tour-based model: In the subdialog 'Utility definition for person group/destination activity' of the parameter dialog of the 'Tour-based model - Combined trip distribution / mode choice' procedure, only parts of the formula were displayed from the second call of the dialog. This error has been fixed. **(14439)**
- Invalid paths to image files in auto texts: If you selected the [Graphics] option for an auto text (in a legend, header or footer) and entered an invalid path to the graphics file, you could not exit the dialog any more. This bug has been fixed. **(14496)**
- Matrix selection dialog: So far, when opening tab 'Select matrix by number' of the matrix selection dialog, a matrix was marked in the tree even if the matrix reference used attributes other than number, but only one matrix met the conditions at the time. When exiting the dialog, the matrix reference was only modified if a different matrix was marked explicitly in the tree. In this case, the matrix reference was changed in such a way that it only required the number as condition. Now, the program only marks a matrix automatically in the tree if the matrix reference uses the number exclusively as condition. **(14427)**
- Restricted text length in combo boxes: In several Visum dialogs, the entries in combo boxes were restricted to a length of 20 characters. This error has been fixed. **(14549)**

Filters

- OD pair filter on PuT paths: The evaluation of the OD pair filter with conditions on PuT paths no longer causes a crash if implausible path legs exist in paths which stem from passenger surveys. **(14517)**

Foreign Formats

- Length data in railML import: If no stop point can be allocated to an OCP of the railML data in the target network (because there is no matching stop point or multiple matching ones), this OCP is omitted in the items of a vehicle journey. If this OCP provides information on the To length in the context of a specific vehicle journey (OcpTT item), it is allocated to the previous route point. However, if the previous line route item was not a route point, this length was lost, i.e. the vehicle journey was too short in total. This error has been fixed. **(14494)**

Listings

- Fares in PuT path leg list: The fares shown in the 'PuT path legs' list were not updated when changing the general procedure settings (especially the settings regarding revenue distribution). **(14530)**
- Grouping and analysis rows: In specific cases, opening a list with activated grouping and analysis rows led to a crash. This has been fixed. **(14498)**

Main Window

- Hidden floating dialogs: If you change the position of the network editor, e.g. by pulling it out or docking it after a floating dialog of the network editor was open, the network editor hides the associated floating dialog when shifting the focus to another view (for example lists) and back. This concerns all floating dialogs of the network editor, thus
  - dialogs to select line routes, system routes, and PrT paths
  - dialogs to insert line routes and paths
  - dialog to create stop points
  - dialogs to edit the shape of links / screenlines
  - dialog to edit the shape of faces
  - link sequence from shortest path search
  - dialog to edit the shape of line routes, system routes, and PrT paths. **(14515)**

Matrix Editor

- Calculating with extremely small numbers: In the matrix editor, you can now run arithmetic operations with matrices that contain so-called denormalized numbers (decimal numbers in a range smaller than 10^-309). So far, such matrices could be generated in procedures, however, they could not be processed in the matrix editor. This bug has been fixed. **(14478)**

PrT Assignment

- Analysis time intervals and blocking back model: If you calculated a PrT assignment with blocking back model, then checked/unchecked option 'Analysis time intervals - Use for calculation results: PrT' after the assignment and finally saved a version file, this file could not be read in Visum any more. This error has been fixed. **(14523)**

PuT Passenger Survey

- Plausibilization with open path leg list: A crash no longer occurs if the PuT path leg list is open while executing the 'Plausibilization of survey data' procedure. **(14479)**

Scenario Management, VISUM Files

- Treatment of turns in model transfer files: If you deleted a node and later on inserted it again with the same number, nodes and turns were rated as 'modified' in the model transfer file when comparing old and new states while the affected links were listed as 'deleted' and 'inserted'. In the course of this, all attributes of the links were listed while only modified attributes of the nodes and turns were listed. When applying the model transfer file however, deleting and reinserting the links leads to the deletion and reinsertion of the turns as well. Their attributes are thus lost. For this reason they will now also be listed as 'deleted' and 'inserted' in the model transfer file. **(14499)**

Timetable Editor

- Editing vehicle journeys: If a tabular timetable is open and a vehicle journey is edited in the 'Edit vehicle journey(s)' dialog, in the tabular timetable behind, the data of all vehicle journeys disappear as soon as you edit line, line route, direction, or time profile of the vehicle journey. This bug has been fixed. **(14484)**

VISUM Files

- Writing model transfer files via COM: The setting for saving floating-point numbers in text files with maximum precision did not take effect in case of model transfer files if they were saved via COM. This error has been fixed. **(14505)**

14.00-08 [92767] 2014-12-11

New Features and Changes

Add-Ins

- Add-in 'Import DIVAGeo': The 'Import DIVAGeo' add-in now generates significantly fewer nodes than before. On the one hand, nodes with the same coordinates that are used in different line routes are merged into one node. On the other hand, intermediate points that are close to each other are thinned out. Both measures not only avoid problems regarding the license size, but also ease a subsequent import into a transport model with the 'PuT supply from Visum' import. **(13968)**
- OMX import for matrices: Matrices can be imported in OMX format with the new 'OMX import' add-in (https://sites.google.com/site/openmodeldata/). This add-in can also be executed during a procedure sequence. **(14003)**

COM

- Graphic parameters of the schematic line diagram: You can now open or save the graphic parameters file of the schematic line diagram via COM using new methods at ISchematicLineDiagram (OpenGraphicparameters and SaveGraphicparameters). **(14477)**

Data Model, PuT Assignment

- Penalties for PuT-Aux transport systems: For ticket types, you can now specify penalties per transport system for transport systems of the type PuT-Aux. **(14424)**

Dialogs

- Editing the calendar without the calendar module: If the add-on 'Calendar / valid days' did not exist or was not active, so far, you could not edit the calendar settings in the dialog 'Network settings'. As a result, you could not prepare version files for the import of PuT supply from Visum into a target network without a calendar. However, this add-on should prohibit the existence of valid days (apart from 'daily') only. This error has thus been corrected. **(14432)**
- Predefined conditions in matrix selection: The dialog page 'Select matrix by properties' of the 'Select matrix' dialog now displays conditions on the matrix predefined by the program in a readable form above the input field. **(1171)**

Foreign Formats

- Export of matrices in OMX format: The new add-in 'OMX export' facilitates the export of matrices in OMX format (see https://sites.google.com/site/openmodeldata/). This add-in can also be executed during a procedure sequence. **(14004)**

Formulas

- Simple matrix references: If the possibilities of the matrix references are not used at all, the simplified style 'Matrix(n)' instead 'Matrix([NO] = n)' is now formed to improve the readability if a specific matrix is selected in the tree of the 'Select matrix' dialog. **(14195)**

Listings

- 'Stop points - arrivals/departures' list: The 'Stop points - arrivals/departures' list can now display arrivals and departures for all stop points at the same time. **(14483)**

Main Window

- Link to Add-In Marketplace: You can now access the Add-In marketplace for PTV Vision products via an entry in the Scripts menu. **(14064)**

PuT Assignment

- Acceleration of matrix references: The use of matrix references instead of fixed matrices led to a performance loss which was now compensated by accerelation measures. **(1115)**
- Timetable-based skim calculation with MPA: The procedure step 'Aggregating skim matrices' within the scope of the timetable-based skim calculation with MPA has been accelerated considerably. **(13734)**

Timetable Editor

- Changing the order in the tabular timetable: The tabular timetable now offers extended possibilities to sort vehicle journeys. You can now sort all vehicle journeys chronologically via the menu and, moreover, you can sort vehicle journeys via the shortcut menu of a stop of the stop sequence by the departure time at this stop. In the process, vehicle journeys which do not pass this stop are now sorted correctly. By default, the tabular timetable is still sorted by the attribute 'Departure'. **(14018)**

- Fewer dialogs when opening the timetable: When opening a timetable editor, the line selection and stop sequence is now always replaced if a matching marking (lines, line routes, links, stops, edges of the schematic line diagram) exists yet none of the two timetable is open. If the marking shall be disregarded and the previously existing line selection and stop sequence shall be displayed with the timetable, you can restore the previous state of the line selection and stop sequence using 'Undo'. **(14420)**

Fixed Bugs

Add-Ins

- Add-In 'Import Google Transit Feed': Vehicle journeys were shifted in time when using the Add-In 'Import Google Transit Feed' for an import. This error has been corrected. **(14389)**
- Add-Ins change COM export property: Several Add-Ins ('Set Matrix Diagonal', 'Balance Matrix (Furness)', 'Calculate Matrix', 'Generate PuT Zone Connectors', 'Load Matrix From Excel', 'Matrix Convolution', 'POI --> FareZone', 'Split P&R-Matrices', 'Zone Catchment Areas') changed the global COM property 'ExportAllNumbersAsDoubles' when editing their parameters. Subsequent COM calls providing numerical data then returned different results than before. This error has been corrected. **(14437)**
- Empty values in add-in 'Calculate Matrix': So far, the add-in 'Calculate Matrix' could not be run if one of the operands in the add-in contained empty values. Such empty values in matrices arise, for example, if a filter on OD pairs is set. **(14376)**

COM

- Additive reading of a network from the procedure sequence: Reading a network file additively while executing the procedure 'Run script' could lead to a crash when subsequently editing procedure steps which referred to network objects (for example transport systems, demand segments, or demand strata). Such subsequent changes are no longer possible, i.e. changes saved in the network file which involve changes to the current procedure sequence, will not be saved. **(14380)**
- INet.AddLineRoute: The AddLineRoute method at INet should turn all stop points which are open for the transport system line in the course of the line route into route points. However, so far, any line route items located only at nodes were also turned into route points. This bug has been fixed. **(14435)**

Data Model

- Creating a route point in a coupled section: Activating the route point property of a line route item no longer causes a crash if a coupled section exists on this line route item in one of the time profiles. **(14453)**
- Loss time 1 / 2 at links: In the past, PuT transport systems were considered for the attributes 'Mean loss time 1 PrT', 'Mean loss time 2 PrT', 'Total loss time 1 PrT' and 'Total loss time 2 PrT'. This error has been corrected. **(14469)**

Demand Procedures

- Messages issued during 'Tour-based model - Combined trip distribution / mode choice' with rubber banding: When executing the 'Tour-based model - Combined trip distribution / mode choice' procedure, less messages are issued for OD pairs and activity transitions with a utility <=0 to avoid log files with a critical size. **(14388)**

Dialogs

- Auto-texts in graphic parameters and legend: The names of the auto-texts which can be used for the labeling of headers and footers in the graphic parameters and the legend were displayed in German even though English was selected as language. This bug has been fixed. **(14450)**
- HBEFA data warning: When starting PTV Visum, a warning on missing or incomplete HBEFA data ("No or incomplete installation of HBEFA data ...") was also issued if the license contained the add-on module HBEFA but the add-on was switched off. This error has been fixed. **(14401)**

Dialogs, PuT Line Blocking

- Turning empty trips into vehicle journeys: So far, you could not turn an empty trip based on a system route into a vehicle journey. This bug has been fixed. **(14382)**

Filters

- Filter on vehicle journey items: Reading a filter file that contains a filter condition on vehicle journey items no longer leads to a crash, if no vehicle journey items exist in the network (and thus no volumes on vehicle journey level and not user-defined attributes on vehicle journey items). **(14482)**

Foreign Formats

- U-turns in HAFAS import: When importing HAFAS, line routes using a U-turn were not imported if the option 'Close the U-turns and open any other (main) turn for the transport systems of the adjacent links' was set in the user preferences under Network -> Turns and main turns. This error has been corrected. **(14392)**

Formulas

- Messages regarding incorrect formulas: If a formula is compiled for display which is syntactically incorrect, no message is issued during the compilation any more. Messages of that kind are obstructive when merely displaying formulas. Messages regarding an incorrect syntax will still be issued when editing the formula. **(14372)**

Graphical Procedures

- Shortest path search PuT: An existing shortest path search did not respond reliably to modifications of relevant attributes, for example lengths of used line route items. This bug has been fixed. **(14456)**

Junction Editor

- Vissim previewer: The Vissim previewer has been updated. Stopping a simulation in Vissim in particular no longer leads to a crash if the network contains RBC-controlled nodes. **(13873)**

Listings

- 'PuT paths' list with flow bundle paths: A crash no longer occurs if a 'PuT paths' list is open, which only displays flow bundle paths, when executing procedures. **(14476)**
- Analysis rows in the 'Transfers and walk times in stop' list: A crash no longer occurs if you activate the analysis rows (sum etc.) in the 'Transfers and walk times in stop' list. **(14475)**

Main Window

- Search dialog, search in attribute: If you open the extended search under "More details" in the tool window "Find", you can select a specific attribute for the search in the drop-down list "Search in attribute". In this list, you could not select entries using arrow keys. This bug has been fixed. **(14442)**
- Switching windows with Ctrl + Tab: You can now switch between the individual views of a Visum instance via the key combination Ctrl + Tab. **(14136)**
- Tool window 'Marking': The program no longer crashes if the tool window 'Marking' is open and visible and at least two links are selected in a synchronized link list. **(14409)**

Network Editor

- Editing POI categories: In the past, the Multi-edit special function 'Edit category' for POIs did not consider the option 'Only active ones'. This error has been fixed. **(14318)**

Network comparisons

- Network merge mode and filters: Generating a comparison network in the network merge mode used to be slow if a filter with comparatively long evaluation times (e.g. the OD pair filter) was active in one of the version files compared. **(14419)**

Procedure Sequence

- Check before saving procedure parameter files: So far, the parameters were checked before saving a procedure parameters file (binary or xml) and the file was not saved in case of errors. This check for example verifies the existence of specified transport systems, demand segments, or even computation nodes. In case of the latter, it even checks the current availability. However, this check is useless before saving to file and is thus dropped. Now, it is only carried out before the execution of the procedures. **(14474)**
- Output of lots of messages: If a procedure generated lots of messages, the respective cell in the procedure sequence was displayed empty. In order to see the messages, you had to move the mouse over the cell. This bug has been fixed. **(14411)**

PuT Assignment

- Headway-based assignment with circle lines and 'optimal strategies': The headway-based assignment no longer crashes when choosing the passenger information 'None ('optimal strategies')' if the network contains ring lines. **(14414)**
- Unstable results of headway-based assignment with PuT-Aux: If the network contained several transport systems of the type PuT-Aux, the headway-based assignment could produce unstable results. This error has been fixed. **(14431)**

PuT Assignment, Graphical Procedures

- Passengers following a circle line transition were neither counted as passenger transfers nor 'Through' passengers at the stop point or stop so far, i.e. they did not appear at all in the volume of the stop. According to the flow bundle, they were transfers and not 'Through' passengers. Both errors were corrected. **(14236)**

Schematic Line Diagram

- Rerouting line routes: A crash no longer occurs if you reroute the end of a line route while a schematic line diagram is open whose vehicle selection is specified on the basis of lines and directions. **(14433)**
- Updating run and dwell times: The displayed arrival and departure times were not updated in the schematic line diagram when changing the run and/or dwell times of a time profile. This error has been fixed. **(14421)**
- Keeping grouped edges: Changes to the underlying vehicle journeys of an edge are less likely to cause the separation of grouped edges in answer to the modification of the data model. Even if you deselect vehicle journeys in the vehicle journey selection and later select them again, the groupings are now retained. **(14417)**
- Response to changes to name attributes: Changes to the attributes of From-Time profile item names and To-Time profile item names of vehicle journey sections were rejected if a schematic line diagram was open which displayed the affected vehicle journeys. This bug has been fixed. **(14457)**

Subnetwork Generator

- Forbidden special characters: So far, generating the subnetwork failed when texts contained special characters that are not allowed (semicolon in particular). This error has been corrected, i.e. a subnetwork can be generated. However, it will also contain texts with forbidden special characters. **(14399)**

VISUM Files

- Rows of tabs in network files: Rows in network files consisting of tabs only were not ignored reliably. This bug has been fixed. **(14454)**

Breaking Changes

PuT Assignment, Graphical Procedures

- Passengers following a circle line transition were neither counted as passenger transfers nor 'Through' passengers at the stop point or stop so far, i.e. they did not appear at all in the volume of the stop. According to the flow bundle, they were transfers and not 'Through' passengers. Both errors were corrected. Naturally, this changes the volumes at stops and stop points and the results of flow bundle evaluations. **(14236)**

14.00-07 [91829] 2014-11-11

New Features and Changes

COM

- Use of metric / imperial units: You can now switch between imperial and metric units using the new attribute 'UNIT' at INetwork. **(14296)**

Dialogs

- Dialog 'Generate version comparison': The type of version comparison selected in the dialog 'Generate version comparison' is now saved as default during the current Visum session. **(14285)**

Foreign Formats

- 'PuT supply from Visum' import: The import of PuT supply from Visum is now faster when bundling route courses in the target network. Moreover, another error has been fixed which could lead to unintended loopss in the target network when bundling route courses. **(13928)**
- OpenStreetMap import: So far, OSM ways were not imported if they contained adjacent nodes which were at the same time nodes on a different way, because this led to parallel links in Visum. This conflict is now solved by the insertion of an intermediate node (in the process step ProcessProblemWays). **(14182)**

Formulas, Demand Procedures

- Matrix formulas: The evaluation of formulas on matrices has been accelerated considerably for numerous special cases. As a result, the procedure 'Combination of matrices and vectors' and the different demand procedures, 'Tour-based model - combined distribution/mode choice' in particular, are now faster. **(13746)**

Installation

- The manual as well as the online help have been updated. **(14385)**

Listings, Dialogs, Procedure Sequence

- Alignment of the label of embedded buttons: So far, the label of embedded buttons in lists and list-like grids used to be centered. Now the label is always left-aligned if it cannot be set explicitly, or else it is aligned as specified for the respective column of the list. The labels of the procedure sequence in particular are now left-aligned, as well as the labels in the parameter dialogs of the different demand procedures (4-step, Tour-based model, Viseva), so that users can read the beginning of the text. In lists, the alignment can be set explicitly (if option 'Extended input options' has been activated). **(14250)**

Network Comparisons

- Version comparison with relative paths: If you explicitly enter a relative path when comparing versions (in the input field or via COM), it is now saved as relative path in the version file. The path is only dissolved as relative path when it is needed, i.e. when reading in the version file. In the process, the project directory for version files is evalutated first, afterwards the path of the currently loaded version file is searched. For files specified with absolute paths (for example in the file selection dialog) which, however, are located in the same directory as the currently loaded version file, a relative path is already saved to the version file and converted into an absolute path based on the then current path of the open version file when reading in this version file. This logic persists. **(14322)**

Timetable Editor

- Display of tool windows 'Timetable lines' and 'Line block selection': So far, the tool window 'Timetable lines' was always shown or displayed in the foreground if one of the two timetables got the focus. The same applies to the 'Line block selection' window and the Line block editor. Now these tool windows are displayed only once when opening a timetable or the line block editor. **(13915)**

Fixed Bugs

Add-Ins

- Add-In 'Buffers Around PuT Lines': If the network contained time profile items which were not located at a stop point, running the 'Buffers Around PuT Lines' add-in produced an error. This error has been fixed. **(14308)**

COM

- Lists of activity pairs, activities, or person groups: When opening a list of activity pairs, activities, or person groups, the 'Demand models' list was opened instead. This bug has been fixed. **(14369)**
- Setting values at IMatrix: So far, the methods (Init, Open, SetDiagonal, SetValues, SetValuesDouble, SetValuesFloat, SetValuesRaw) which set values at IMatrix (not attributes of the matrix object) could not be undone. Moreover, possibly necessary new evaluations were not started reliably, e.g. of filters (OD filter). This error has been fixed. **(14357)**

Data Model

- Deleting a mode, a demand stratum, or a demand segment: A crash no longer occurs when deleting a mode, a demand stratum, or a demand segment. **(14373)**
- Deleting many lines: The multi-deletion of many lines has been accelerated. **(14291)**

Dialogs

- Home trips for tour-based demand models: For a demand model of the type tour-based, you can edit the home trips of the zones on the 'Demand strata' tab of the 'Demand models' dialog. Even though the 'Set number of home trips' dialog displayed values of the zone attribute 'Home trips', changes were saved to the attribute 'Productions'. This error has been fixed. **(14324)**
- Localized matrix references: Matrix references are localized in more places than before, i.e. the operators and attribute names included are displayed in the set language instead of with the attribute ID (identical to the English short name). **(14347)**

- Subnetwork generator: In the 'Parameters subnetwork generator' dialog, the active status of the control elements were not refreshed correctly when reading in a parameters file, so that certain entries were not possible. This error has been fixed. **(14351)**

Foreign Formats

- HAFAS import: If the HAFAS data stock is not include a stop which is used by a vehicle journey, this vehicle journey is still imported and the stop omitted. However, if this affected the first stop of a vehicle journey (and hence a time profile), the departure time at the first time profile item was not 0:00h. This could lead to an undefined behavior. The departure times of such time profile items could, for example, not be edited. This bug has been fixed. **(13578)**

Formulas

- Formula matrices: When making changes to network objects, it is generally necessary to re-evaluate formula matrices as they may potentially depend on any network objects. Not only the value has to be re-evaluated, but also matrix references, because they can have a new meaning after changes to matrix attributes. This re-evaluation was missing up to now and has now been added. Consequently, OD pair filters set on formula matrix values are also evaluated anew. **(13573)**
- Initializing a formula matrix: The initialization of a formula matrix could trigger a crash when subsequently editing matrices. This bug has been fixed. **(14370)**
- Sum of a formula matrix: The value of the attribute 'Sum' of a formula matrix was not refreshed if matrices used in the formula were changed by the execution of a procedure. This error has been fixed. **(14307)**

Graphics

- Scale of the network window: The scale was incorrect when using a projection. This applied to the numerical scale which is shown in the status bar, as well as to the graphical scale in the legend. This error has been fixed. **(12565)**

Listings

- Pasting from the clipboard: So far, in a list, you could paste a table with data for another network object from the clipboard without receiving a warning. This error has been fixed. **(11027)**
- PrT paths list: Editing the origin zone filer in the PrT paths list no longer causes a crash if the list is set to a path set and not to a demand segment. **(14289)**

Main Window

- Aggregation in the quick view: When editing the aggregation function of an attribute at multiple objects directly via the shortcut menu of the quick view, the display of this attribute was not refreshed. This bug has been fixed. **(14225)**

Network Editor

- Editing the shape of line routes: If a line route contains shortened vehicle journeys which pass the section to be edited, these vehicle journeys have to be shortened to a stop on the unchanged section of the line route. If profile points existed at a stop on the associated time profile, however without boarding/alighting, the vehicle journeys were still shortened to this profile point, which resulted in an error message. Consequently, the course of the line route could not be changed. This error has been fixed by shortening the vehicle journeys to the nearest profile point with boarding/alighting. **(14267)**
- Network window loses focus: In different situations, the network editor lost the focus even though work had been done with this window only. In all of these situations, for example, you could not zoom with the mouse wheel any more but had to click into the network to do so. This bug has been fixed. **(14309)**

Other Procedures

- Convert paths: In the 'Convert paths' procedure, the volume of the AP was used instead of the volume of the selected analysis time interval, if the source was a dynamically assigned PrT demand segment. This error has been fixed. **(14355)**
- Time-of-day choice: The 'Time-of-day choice' procedure was considerably slower in Visum 14 than in earlier versions. It has thus been accelerated. Furthermore, the progress is now indicated during the execution and you can cancel the procedure. **(14361)**

PuT Assignment

- Headway-based assignment and user-defined attributes: If a network contained the definition of a user-defined attribute at PuT paths and you executed a headway-based assignment and saved the result as a version file, the resulting version file could not be opened again. This bug has been fixed. The defective saved version files can also be opened again. **(14350)**

Scenario Management

- Multi-Insert operations: Several operations that insert a lot of objects with numerical IDs were very slow when editing a modification or the base version. They have been accelerated. However, modifications of a concerned scenario by a different user are now restricted during such operations. This following operations are concerned:
  - Converting polygonal objects
  - Multi-edit special function Generate stops / stop areas / stop points (on nodes)
  - Disaggreating line routes
  - Deleting nodes with connection of the links
  - Aggregating POIs/zones/territories
  - Aggregating the zones of a main zone
  - Generating zones
  - Import of the PuT supply from Visum
  - Import of shapefiles **(14248)**

Schematic line diagram

- Separating all bundled edges: Separating all edges in a schematic line diagram could lead to a crash if bundled inner edges existed. This error has been fixed. **(14346)**

Timetable Editor

- Inserting vehicle journeys into a graphical timetable: If a graphical timetable is open, all displayed vehicle journeys disappeared as soon as the 'Create vehicle journey' button is pressed. Not until you close the 'Create vehicle journey(s)' dialog, the vehicle journeys are displayed again. This error has been fixed. **(14286)**
- Reading the layout of timetable lines: Visum no longer crashes when reading in a layout file in the tool window timetable lines in certain circumstances. **(14287)**
- The deletion of multiple vehicle journeys in the tabular timetable no longer causes a crash. **(14310)**

Timetable Editor, Schematic line diagram

- If a version file contained a tabular timetable, a line block editor, or a schematic line diagram in a tab group together with another view (e.g. the network editor), and the respective view was in the background, the display detail/the position of the separation between the different views was not restored correctly when restoring the window configuration. This error has been fixed. **(13994)**

VISUM Files

- Version number network file / demand file: The version number has been incremented in the file types network file (*.net), demand file (*.dmd), and attribute file (*.att) to facilitate the reading of those files in external programs. This was necessary because of the introduction of matrix references as some attributes changed their value type as a result. Visum can read in files with previous version numbers as well as those with new ones. **(14235)**

Breaking Changes

Network Comparisons

- Version comparison with relative paths: If you explicitly enter a relative path when comparing versions (in the input field or via COM), it is now saved as relative path in the version file. The path is only dissolved as relative path when it is needed, i.e. when reading in the version file. In the process, the project directory for version files is evalutated first, afterwards the path of the currently loaded version file is searched. For files specified with absolute paths (for example in the file selection dialog) which, however, are located in the same directory as the currently loaded version file, a relative path is already saved to the version file and converted into an absolute path based on the then current path of the open version file when reading in this version file. This logic persists.
  If you enter a relative path, then save the version file with the version comparison to it and later read it with different project directory settings, the second version file is sought in a different location than previously.
  Furthermore, version comparisons which are generated in this way cannot be read in with older Visum versions.
  (14322)

14.00-06 [91230] 2014-10-16

New Features and Changes

Network Editor

- Generating connectors: When generating connectors, the t0 values are now always calculated for all transport systems based on the distance and the set speed, and not just for the PrT or PuT transport system. You no longer have to allocate this value manually when subsequently opening connectors for further transport systems. **(14231)**

PuT assignment

- Headway-based assignment with fares: The headway-based assignment with fares is a lot faster if the fare per path leg depends on the time profile only, and not on the boarding location. This condition for example applies if the fares contain boarding and transfer fares for fare systems only. In cases affected by the acceleration, the calculation results change once. **(13624)**

Fixed Bugs

COM

- ScriptMuuli functions: A crash no longer occurs when closing Visum after calling specific functions of ScriptMuuli from a COM script. **(14292)**

Data Model

- Insert time profile item: If there is a shortened vehicle journey using a time profile, but not the complete time profile's range, it was not possible to insert a time profile item ('Profile Point' property) on a line route item having the 'IsRoutePoint' property within the part of the time profile not used by the vehicle journey. This bug has been fixed. **(14305)**

Dialogs

- Finding matrices: Searching for matrices via the search dialog no longer causes a crash if the (in this case useless) synchronisation is active and a matrix is marked in the list of search results. **(14226)**

Foreign Formats

- HAFAS import: If vehicle journeys cannot be imported because the valid days specified for their sections are not imported, a warning is now issued indicating this cause. **(14256)**

Network Editor

- Converting polygonal objects: The conversion of polygonal network objects, in particular those with complex polygons, has been accelerated. **(14244)**
- Editing the shape of a line route: So far, an autozoom on the selected object (node / stop point) was not possible in combination with the function 'Select storage location' (which can be called via the context menu of a line route item). This error has been fixed. **(14274)**
- Floating dialog PrT paths: The floating dialog for PrT paths only displayed those paths which started with the lowest number at the zone. This error has been fixed. **(14232)**
- Tree display of POI categories: If a POI category existed in the network whose number is smaller than the number of the parent category, so far, those categories were displayed falsely in the category selection tree. This error has been fixed. **(14255)**

Network comparisons

- Signal controls in model transfer files: If you edited the stages of a signal control via a model transfer file, the application of this model transfer file could fail because temporarily inconsistent green times could occur. This error has been fixed. **(14260)**

PuT Operating Indicators

- Cancelling procedure 'PuT Operating Indicators': Visum does not crash anymore if you cancel the procedure 'PuT Operating Indicators' during an operational performance calculation. **(14283)**

PuT assignment

- Walk links in the timetable-based assignment: If the option 'Delete connections that lie entirely within the departure/arrival extension' was activated, so far, pure walk links with a duration of 0s were deleted in the preselection. This error has been fixed. **(14271)**

Schematic line diagram

- Attributes 'Headway time' and 'Maximum headway' at nodes with no alighting/boarding: If an edge is located at a transfer node at which alighting and boarding is not permitted for the displayed vehicle journeys, the determination of the values for the attributes 'Headway time' (directed/undirected) and 'Maximum headway' (directed/undirected) fails, because only departure times with alighting/boarding are included in the determination of the headway. The calculation has been changed in such a way that interpolated times now enter the calculation of the headway. **(14265)**
- Connecting all transfer nodes: The program does not crash any more if the option 'Connect the edges of a vehicle journey to all stops of the line route' or '...all stops with route points of the line route' has been selected in the layout of a schematic line diagram, and the timetable editor is opened in the context of a marked edge of which the time profile of one of the vehicle journeys displayed by the edge has no profile point at one of the adjacent transfer nodes. **(14261)**
- Open layout file: When opening a layout file in the schematic line diagram, Visum bundled edges that were not bundled when saving this layout. This error has been fixed. **(14273)**
- Separating edges: Visum no longer crashes when separating all edges. **(14270)**

Timetable Editor

- Search in the tabular timetable: Searching vehicle journeys in the tabular timetable no longer leads to a crash if more than one vehicle journeys are marked and the network editor synchronization with auto zoom or move view is active. **(14237)**

VISUM Files

- Standard value for user-defined attributes: The standard value for user-defined attributes of the type 'Bool' was not read in correctly from network files and model transfer files.This error has been fixed. **(14242)**

VISUM Files, Network Comparisons

- Node geometry in model transfer file: If a model transfer file described the opening of an entry link of a split node leg, an invalid geometry could result when applying this model transfer file. This also affected the scenario management. This error has been fixed. The correction affects both the generation as well as the application of the model transfer file, which now contains more information on legs and lane turns. **(14269)**

Breaking Changes

PuT assignment

- Headway-based assignment with fares: The headway-based assignment with fares is a lot faster if the fare per path leg depends on the time profile only, and not on the boarding location. This condition for example applies if the fares contain boarding and transfer fares for fare systems only. In cases affected by the acceleration, the calculation results change once. **(13624)**

14.00-05 [90954] 2014-10-07

New Features and Changes

Dialogs

- License confirmation for OpenStreetMap background maps: The knowledge of the license terms for OpenStreetMap background maps have to be confirmed less often than before (only once per Visum session). **(13270)**
- Preview of the background map in the graphic parameters dialog: The preview of the background map in the graphic parameters dialog now runs in the background. You can thus specify settings in the dialog before the preview is refreshed. **(12690)**

Filters

- Complement in filter dialog: For all group filters (OD pairs of zones, PrT paths, stops, lines), you can now display and edit the state of the complement option on the level of the overall filter condition for a network object type. So far, this option only existed in the data model (and thus via COM or in the XLM filter file). The effect is the same. **(11883)**

Junction editor

- Vissim node preview: The preview has been updated to version PTV Vissim 7. **(14035)**

Listings

- List 'Fare systems': A new list for fare systems has been added. You can edit the values of user-defined attributes of fare systems in this list. For technical reasons, this list is not restored when saving a version file in Visum 14. **(14202)**

Miscellaneous

- User setting 'Load map services automatically when opening version files and graphic parameter files': This setting in the user preferences used to affect static background maps only. It has now been renamed 'Permit loading of background maps from the internet'. If this option is not active, neither live background maps nor static background maps are displayed in the network editor. In the graphic parameters dialog, no preview will then be available on the page 'Background map'. Any internet access to background maps will be switched off. **(13815)**

PuT Passenger Survey

- Acceleration of plausibilization and direct assignment: The 'Plausibilization of survey data' procedure is now up to 15% faster and the 'Direct assignment' procedure up to 90% faster. In rare cases (where there are multiple line routes of the same line which have vehicle journeys matching the input data, i.e. such which run at the same time between the same stops), results may change once. **(14210)**

Timetable Editor

- Exporting the tabular timetable to the clipboard: You can now export the entire tabular timetable to the clipboard (again). **(14102)**
- Single-row and double-row display in the tabular timetable: Even if some marked stops are not displayed in two rows, in the context menu of the tabular timetable, you can now switch to a single-row display of marked stops and vice versa. **(14175)**
- Sorting in the tabular timetable: So far, when editing the departure time of a displayed vehicle journey, Visum used to re-sort the display in the tabular timetable according to the standard sequence, thus destroying an existing sorting. This error has been fixed. A reorganization (and thus sorting) of the display cannot be avoided when inserting or deleting vehicle journeys. **(14166)**

Fixed Bugs

Add-Ins

- Import Google Transit Feed: So far, reading in ANSI-coded files with the 'Import Google Transit Feed' add-in failed. This error has been fixed. **(14179)**
- VisumPy.helpers: The functions GetMatrix and GetODMatrix from the VisumPy library now deliver the same return values as in the versions of the library delivered with Visum 13. **(14204)**

Data Model

- Moving vehicle journeys to a different time: In the past, the departure of a vehicle journey could be > 48:00:00 based on different approaches, for example when moving vehicle journeys to a different time in the tabular or graphical timetable. This error has been fixed. **(14201)**
- Transport system of lines: So far, it was basically possible to allocate a transport system of the type PrT or PuT-Walk to a line; it was only prevented in the dialog. The error has been fixed. **(14170)**

Dialogs

- 'HAFAS import' dialog: You can copy and paste on the 'Transport systems' page of the HAFAS import parameters dialog. Pasted values were not saved, however, but only displayed in the dialog. This error has been fixed. **(14169)**
- Classification in graphic parameter dialogs: The display of the cells is now refreshed correctly when entering or inserting copied colors on page 'Active OD pairs > Display' of the graphic parameters dialog of the matrix editor, in all classification grids of the graphic parameters dialog of the tabular timetable, and on page 'Header data > Background' of the line block editor. **(13999)**
- Shifting vehicle journeys: If you the shifted vehicle journeys of the selected time profile using the icon 'Change times of the current time profile's vehicle journeys' in the 'Items and time profiles' tab of the 'Edit line route' dialog, some vehicle journeys were not shifted sometimes. This error has been fixed. **(14183)**

Foreign Formats

- 'PuT supply from Visum' import: If an ID search was switched on and the option 'Only use ID references for existing stop points, do not perform geographical search' was selected, the program did not search geographically if no existing stop point could be found as candidate. In addition, the program handled cases incorrectly where the same stop point in the target network was found as candidate for two successive line route items. Both errors have been fixed.
  Candidates found in a geographical search while option 'Only use ID references for existing stop points, do not perform geographical search' has been selected and not via ID references will be issued in a warning. **(14141)**
- Key overflow during import of 'PuT supply from Visum': The PuT supply from Visum import no longer crashes if an overflow occurs for an object with a numerical key in the target network (number is higher than approx. 2.1 billon). This happens if the number in the source network plus the set offset is higher than the maximum permissable value. The import still does not work in this case. You have to use the conflict avoidance option 'Compress with offset' for an import. **(14039)**

Graphical Procedures

- Filters and shortest path search: So far, the active filters were evaluated anew with each change to a shortest path search (for example the selection of the origin or destination zone or of an intermediate node), because saving the route index to any attibute can affect each filter condition. This evaluation of the filters is now only carried out if the route index is actually saved. **(14222)**
- Shift network and flow bundle: In the 'Flow bundle' mode, you could not switch to the 'Shift network' mode by means of the space bar but only by means of the middle mouse button or the toolbar icon. This error has been fixed. **(14207)**

Graphics

- Zooming background maps: Zooming out far (map of the earth visible several times) while the background map was switched on resulted in poor visual effects. This error has been fixed. **(13868)**

Line blocking

- Negative minimum layover times and circle lines: When creating open blocks and activating option 'Always permit the transition between the sections of a vehicle journey' while negative minimum layover times (i.e. limited timetable changes) are permitted during line blocking and the vehicle journeys to be planned contain vehicle journeys on ring lines, entirely inefficient blocks are generated, which contain only one vehicle journey each on the ring line. This error has been fixed. **(14196)**

Main Window

- Empty windows in case of missing licenses: If you read in a version file which contained windows to be restored for which no current license existed (e.g. schematic line diagram, transfers display of regular services, signal time-space diagram), empty window were displayed when activating the options 'Apply from version file, otherwise retain' or 'Apply from version file, otherwise reset' for the window configuration. This error has been fixed. **(13664)**

Miscellaneous

- Memory consumption in networks with a lot of time series items: Visum 14 consumed a lot more memory than Visum 13 when loading networks with a lot of time series items. This error has been fixed. **(14184)**

Network Editor

- Aggregating and disaggregating line routes: If you aggregated and disaggregated line routes, the values of user-defined attributes were lost at affected vehicle journey items. This error has been fixed. **(14227)**
- Deleting enclaves: The Multi-edit special function 'Delete enclaves' for polygonal objects deleted no more than one enclave per call instead of all enclaves of the polygon. This error has been fixed. **(13894)**
- Editing the shape of line routes: If a line route has an 'antenna', i.e. for example a course A-B-C-B-D, and you fix the base point of the antenna which the line route traverses twice (B in the example) and then drag the end point (C) to this base point, a loop of the antenna remains via the link closest to B. This error has been fixed. **(14187)**
- Editing the shape of line routes: Visum does not crash any more if the line route of a ring line is edited in such a way that the end point and the start point no longer coincide, and if a block item exists for a vehicle journey section of one of its vehicle journeys. Nor does undoing an action which results in the deletion of a block item due to rerouting a line route cause a crash any more. **(14197)**
- Moving objects in the legend: If you reached the margin while shifting objects in the legend (backgrounds, texts, and polygons), so far, you could only move the objects away from the margin yet not along the margin. This error has been fixed. **(13206)**
- Multi-delete of POIs: Multi-deleting a large number of POIs (e.g. all POIs of a category) took too long; it has been accelerated considerably. **(14185)**

- Rerouting coupled line routes: If you edit the shape of a line route which has at least one coupled time profile and one of the newly used links has a link run time t_PuTSys of 0s for the transport system, the edit mode can only be terminated when deactivating the 'Retain coupling' option. It is not possible to retain the coupling which implies a rerouting of the line route of the coupled time profiles. This error has been fixed. **(14163)**

Network comparisons

- Attributes not calculated in model transfer files: If an attribute is not calculated in the target network, it is excluded when generating the model transfer file, i.e. the difference is not saved if it is calculated in the source network. So far, such attributes were not mentioned in a warning either. A warning has now been added. **(14215)**
- Version file with shortest path search: Visum no longer crashes when additively reading in a version file with shortest path search (i.e. in the context of model transfer files or version comparisons). **(14199)**

Procedure Sequence

- Setting procedures active/inactive: Activating and inactivating procedure steps in the procedure sequence took too long, especially if the sequence contained demand procedures with a lot of demand strata. This error has been fixed. **(14223)**

Timetable Editor

- Editing the column width in the tabular timetable: Editing the column width in the stop sequence grid of the tabular timetable no longer causes a crash if the set of displayed vehicle journeys is empty. **(14216)**
- Including missing time profiles in the basic selection: The context menu function 'Include missing time profiles in basic line selection' in the line selection tree of the toolbar window 'Timetable lines' used to include the new siblings not only in the basic selection but also in the visible selection. This error has been corrected. **(14206)**
- Legend in graphical timetable: The 'Legend parameters' dialog for the legend of the graphical timetable can now be called via the 'Timetable (graphical)' menu or the context menu. **(14164)**
- Reading graphic parameters saved with Visum 13: When reading in timetable editor graphic parameters or version files saved with Visum 13, so far, the foreground and the background color of the tableau was not used for the tabular timetable if no classified display had been specified. This error has been fixed. **(14148)**
- Stop sequence after shifting a stop point: If you shifted a node stop point, traversed by a line route, in the network editor in such a way that it turned into a link stop point, the program generated an invalid stop sequence. This could lead to a crash. This error has been fixed. **(14229)**
- Zooming in the graphical timetable: A crash no longer occurs when zooming in the graphical timetable. This crash only occurred in case of specific computer configurations. **(14135)**

VISUM Files

- Reading PrT paths from a network file: Only mandatory attributes and no values of other attributes were read (e.g. In selection, user-defined attributes) when reading PrT path items from a network file. This error has been fixed. **(14167)**
- Saving a version and closing the program: If you confirm 'Save version?' when closing Visum, the version file is not saved but Visum closes anyway. The saved data are lost. The error has been fixed. **(14203)**
- Saving a version with matrix swap file: More detailed error messages are now issued if an error occurs while saving a version file with an associated matrix swap file (for example insufficient memory). Above all, the currently loaded network is kept in the memory so that it can be saved in another location. **(12099)**
- Version files with EVA weighting matrices: Reading version files saved with Visum 13 or earlier which contained EVA weigthing matrices was unnecessarily slow. It has thus been accelerated. **(14191)**

Breaking Changes

PuT Passenger Survey

- Acceleration of plausibilization and direct assignment: The 'Plausibilization of survey data' procedure is now up to 15% faster and the 'Direct assignment' procedure up to 90% faster. In rare cases (where there are multiple line routes of the same line which have vehicle journeys matching the input data, i.e. such which run at the same time between the same stops), results may change once. **(14210)**

14.00-04 [90340] 2014-09-03

New Features and Changes

Dialogs

- Classification according to type number and the like: When setting a new attribute of the type 'type number', 'operator', 'valid day', 'vehicle combination', 'vehicle unit', 'parameter set' and 'fare system' on the classification pages of the graphic parameters dialog, you can now specify if you want to create a new class for each existing value. **(14046)**

Miscellaneous

- Modified mode: When executing a procedure sequence with 'Save version file' as last procedure, the network was no longer classified as modified any more (i.e. no asterisk after the file name in the title bar, no prompt to save the version file when closing the network). **(13656)**

Timetable Editor

- Access to the filter dialog: In both timetables (tabular/graphical), you can now access the filter dialog of the line filter again with a right-click on the filter icon in the tool bar of the timetable. **(14146)**

Fixed Bugs

Data Model

- Access to list of all matrices: Listing all matrices no longer triggers a crash if external matrices exist, for example when adding procedure 'Edit matrix' and subsequently selecting the reference object. **(14154)**

Dialogs

- Inserting bars in graphic parameters: Visum does not crash anymore if you try to insert a bar anywhere but in the last position which uses auto scaling and displays an attribute which is also displayed by another bar. **(14132)**

Filters

- Infinite loop caused by filter on node topology attributes: If a version file contained a filter with a condition that used attributes which enforced the existence of node topologies for nodes (for example 'Number legs'), an infinite loop occurred when opening the version file. This error has been fixed. **(14031)**

Formulas

- Rounding of floating-point number target attributes: When reading in version files or procedure parameter files from Visum version 12.5 or older which contain the procedure step 'Edit attribute' and for which the 'Round' option has been activated despite a target attribute of the type floating-point (this will have no effect in Visum 12.5 or older), the round operator is falsely included in the formula so that the execution of the procedure generates different values than in Visum 12.5. This error has been fixed. **(14144)**

Graphics

- Dashed boundary of polygonal objects of the type point: If you specified a dashed boundary for a polygonal object of the type point and later on a continuous display, the (continuous) lines were joined incorrectly. This error has been fixed. **(14119)**
- Legend and line bars: Drawing the legend no longer causes a crash after rearranging network objects in the graphic parameters for the filling of line bars. **(14165)**
- Slow image buildup: Even if the display of turn volumes was deactivated in the graphic parameters, the program used to calculate the minimum and the maximum of the turn attributes used in bars if the automatic scaling was switched on for these bars. This slowed the drawing of the network window down. This error has been fixed. **(14120)**

Main window

- Crash due to undocked window: Reading a version file with the user preference 'Window configuration: Apply from version file, otherwise reset.' no longer causes a crash if the focus lies on a previously undocked window (e.g. a list). **(14116)**

Network Editor

- Removing profile points after re-routing: Profile points could no longer be deleted after re-routing a line route. The error message 'Vehicle journey does not traverse time profile item' was issued instead. This error has been fixed. **(14108)**

Other Procedures

- Intersect: Executing the 'Intersect' procedure or intersecting within the framework of Multi-edit in the network editor no longer causes a crash if the source attribute of the source object has an empty value. **(14151)**

PuT assignment

- Editing of fares: If you edit the fares of a ticket type by changing the number of fare points for an entry, the fares of existing PuT paths are not updated. Even after a new assignment, the values are now refreshed. This does not apply when editing the fare for a number of fare points. This error has been fixed. **(14054)**
- Slowdown of assignment with matrix time series: So far, the timetable-based assignment was 2-4 times slower in Visum 14 than the same assignment in Visum 13 when using matrix time series with a large number of matrices or very refined time series intervals. **(14143)**
- Timetable-based assignment with shortest path search: In connection with shortened vehicle journeys, in particular cases, the shortest path variant of the timetable-based assignment could generate invalid connections, namely such that used shortened vehicle journeys beyond their own extend. This could lead to a crash in the impedance calculation of the assignment or when accessing such invalid paths later on. **(14014)**

Schematic line diagram

- Deleting labeling forms: If you deleted labeling forms in the graphic parameters of the schematic line diagram and subsequently selected a new labeling form for the display of an edge, the display did not always use the settings of this labeling form but the default labeling form. This error has been fixed. **(14150)**

Timetable Editor

- Displaying user-defined attributes: If you displayed user-defined attributes of vehicle journey items, calling the tabular timetable could cause a crash after terminating and restarting Visum. This error has been fixed. **(14134)**
- Hidden starts/ends of vehicle journeys: The arrows for hidden starts/ends of vehicle journeys now also point in the right direction if they start at segments which are wrapped beyond the time axis. **(14113)**
- Hiding stops without stop events: If the 'Hide stops without stop event' option of a stop sequence was active, the set of displayed members of the stop sequence was not refreshed when changing the visible selection in the line selection. This error has been fixed. **(14101)**

VISUM Files

- Reading of matrix time series: Matrix time series with a lot of entries are now read in much faster from the demand file (*.dmd). **(14155)**
- Time series of matrix numbers within demand files: Demand files (*.dmd) containing time series of matrix number which were created using Visum 13 or earlier versions lost all the matrix numbers when reading with Visum 14. This bug has been fixed. **(14172)**

14.00-03 [90172] 2014-08-21

New Features and Changes

COM

- Executing procedures: A procedure sequence started from a VBS script file via Procedures.Execute is no longer cancelled if it contains Python scripts or Add-ins which use wxPython. **(13638)**

Demand Procedures

- Tour-based model distribution/mode choice: For demand strata with no home trips, the calculation is terminated early in order to save computation time. **(13988)**

Foreign Formats

- OpenStreetMap import: The importer now also reads faces if their edges are not listed in the right order in the source file. **(14028)**

PrT Assignment

- Blocking back calculation: The blocking back calculation on the basis of LUCE assignments has been accelerated and now has the same computation time as on the basis of other assignment variants. **(14088)**
- LUCE: For the internal calculation, nodes are now only "exploded" where absolutely necessary. This reduces the computation time of the procedure, in some networks by half. **(14078)**

Timetable Editor

- By default, the layout of the tabular timetable now contains editable attributes for dimension, vehicle combination, operator and valid day. These attributes are displayed in drop-down lists which contain both number and code or name. **(14075)**
- Separation of the tables in the tabular timetable: The visual separation of the three different tables in the tabular timetable has been softened by placing the toggles 'Show vehicle journey sections' (for the table in the middle) and 'Vehicle journeys/Vehicle journey sections' (for the lower table) in the tool bar of the tabular timetable. In return, the row headers in the vehicle section table are displayed slightly darker. **(13910)**
- User-defined attributes for vehicle journey items: In the stop sequence, you can now also edit user-defined attributes for vehicle journey items. **(6238)**

VISUM Files

- Graphic parameters file: A new XML-based file format (*.gpax) is now available besides the familiar *.gpa file. It can be opened or saved directly in the graphic parameters dialog and up to now contains exactly the graphic settings provided in this dialog. Specific graphic network objects (for example backgrounds) and parameters of graphic tools (e.g. flow bundle, isochrones etc.) are not included. However, there will be an XML format for those tools at a later point in time. **(9709)**

Fixed Bugs

Add-Ins

- Add-In 'Import Google Transit Feed': When using Add-In 'Import Google Transit Feed', a warning is now issued if no license exists for a calendar. All vehicle journeys are imported as daily in this case. **(14053)**
- Matrix Convolution: The procedure is now faster if one of the input matrices is constantly = 0. **(13951)**
- Run VBA: This Add-in can now also handle relative paths in the input attributes. **(14083)**

COM

- Access to matrix values: The IMatrix.SetValuesDouble method now also accepts the return values of IMatrix.GetValuesDouble as argument when called from VBA. **(14033)**
- Editing filter conditions: If a filter condition referred to an attribute with a subattribute, a false error message was issued when accessing the attributes LOWERBOUND, UPPERBOUND or FILTEROPERATOR at the IFilterCondition object via AttValue, stating that the filter attribute was not found. This error has been fixed. **(14066)**
- IExportANMPara: Invalid attribute IDs are now rejected with an error message. **(12161)**
- Setting the text sizing factor: A change of the text sizing factor via INetworkBaseGPA::SetTextSizingFactorForScreen now takes immediate effect in the graphic display. **(14073)**
- Timetable editor: COM methods for reading the tabular timetable now always deliver length attributes contained in the table in the specified unit (e.g. km or mi), and not automatically in meters. **(14007)**

Data Model

- Block items at modified vehicle journey sections: If you extended or shortened a vehicle journey section via the dialog, block items defined on this section were not adjusted. This error has been fixed. **(13749)**
- User-defined attributes: By mistake, the names of user-defined attributes were translated on the user interface when Visum accessed them via relations. This error has been fixed. **(14093)**

Demand Procedures

- Creating a procedure sequence for a demand model: If you created a procedure sequence for a demand model in the Demand models dialog using the 'Create procedure sequence' button, incorrect formulas were generated in the procedure steps of the group 'Matrix aggregation'. These steps could not be executed. The error has been fixed. **(14063)**
- Kalibri: Since "matrix references" are flexible in Visum 14 and no longer permanently allocated in the data model, the Kalibri option "Save the calculated matrix as distribution matrix of the demand stratum" has become redundant. It has been removed from the surface. **(14107)**

Dialogs

- Classification by enumeration type: No more crash when selecting an attribute which is an enumeration type with named values as classification attribute in the graphic parameters dialog. **(14137)**
- Copying values to the clipboard: When copying length attributes from a dialog table (e.g. for user-defined attributes) to the clipboard, it now contains the original values from the view and no longer the lengths converted into meters. **(14103)**
- Line route dialog: Warnings issued while using the line route dialog are no longer displayed in a separate floating dialog but, as usual, in a dialog that has to be confirmed in order to continue working. **(13600)**
- Modal dialogs and progress dialogs: In several situations, a process is started with a progress dialog out of a modal dialog (e.g. additive reading of network files, multi-editing links / deleting collinear points, import of PuT supply from Visum). In all of these cases, the dialog became non-modal afterwards, i.e. other actions could, for example, be triggered via the menu while the dialog was open before the initially started process ended. This led to possible malfunctions or even a crash. This error has been fixed. **(11557)**

Foreign Formats

- Import PuT supply from Visum: In the parameters dialog for the import of the PuT supply from Visum, the program used to display the attribute selection of the target network for both networks when selecting attributes for the comparison attribute of stop points. This error has been corrected, i.e. the attribute selection of the source network is displayed for the stop points in the source network, so that even user-defined attributes, which are defined only in the source network, can be used as comparison attributes. **(13976)**
- Import of PuT supply from Visum: The parameters detour factor and supplement are now considered correctly during the import. A warning is issued if the specified attributes do not exist in the source network. **(13927)**
- Shapefile export: Texts are now cut off at 255 characters when exporting string attributes in order to fulfill the format specifications and to ensure the error-free import of such files. **(14112)**

Formulas

- Crash caused by deep nesting: Formula attributes with particularly deep nesting (about 25 brackets) could trigger a crash. This error has been fixed. **(14080)**
- IF function: Inside the IF function, only the expression that applies according to the IF condition is now evaluated. Depending on the complexity of the contained expressions, this can save a lot of computation time. **(14117)**

Graphics

- Background maps: If no internet connection exists while starting Visum, yet later on a connection exists, Bing maps are automatically available again from this point in time. **(13619)**
- Background maps: On some computers, the display of background maps (Bing maps or similar) used to fail because of the proxy authentication. This error has been fixed. **(14100)**
- Boundaries of polygons: The boundaries of polygons (e.g. for zones or territories) are now displayed as in Visum 13, without disruptive "jags". **(14110)**
- Line bar display: The visibility of the label of a line bar no longer depends on the standard bar parameters of the same bar. **(14071)**

Listings

- Node list: The calculation of analysis rows no longer leads to a crash if node geometries are generated as a result. **(14044)**

Network Editor

- Editing the shape of links and polygons: The dialogs which are used to edit the shape of links and polygons now also open inside the Visum main window if Visum runs on the second screen. **(12224)**
- Tabular editing of line route: If you edited a new line route only tabularly and the run times of the used system routes matched the PuT run times of the used links, you could not exit the floating dialog with OK and had to cancel the action. This error has been fixed. **(14036)**
- Undo: In the "Insert" mode for links and screenlines, you can use the Undo functionality again via the shortcut Ctrl+Z. **(14074)**

Network comparisons

- Network merge mode: On some computer, the program used to crash at the beginning of the network merge mode. This error has been fixed. **(14089)**
- Version comparisons: The project directory specified for version files now applies to files used in version comparisons. Relative paths can thus also be used. **(14076)**

Other Procedures

- "Edit attribute" procedure: *.ver or *.par files created with Visum 12.5 in which the "Edit attribute" procedure set a length attribute to a constant (e.g. "2 km") were not imported correctly into Visum 13 or 14. The constant was set to the internal meter value in this case. This conversion error has been fixed. **(14111)**

PuT Assignment

- Parameter 'Consider connectiuons with DeltaT > 0, if connections with DeltaT = 0 exists': If the parameter 'Consider connectiuons with DeltaT > 0, if connections with DeltaT = 0 exists' is deactivated and if there are no connections with DeltaT = 0 for some given time interval, every connection was assigned the volume 10^(-n), where n is the number of decimal places defined as 'Preciusion of computation' by the general procedure settings. If volume data is not rounded at all, no connection would be assigned any volume in that case. This bug has been fixed. **(14138)**

Schematic Line Diagram

- Shifting centered labels: Shifting centered labels no longer leads to a crash. **(14106)**

Breaking Changes

PrT Assignment

- LUCE: For the internal calculation, nodes are now only "exploded" where absolutely necessary. This reduces the computation time of the procedure, in some networks by half. This change can lead to different assignment results in the context of the accuracy of convergence. **(14078)**

14.00-02 [89482] 2014-08-01

New Features and Changes

Add-Ins

- Add-In 'Import Google Transit Supply': So far, all stop points were opened for all transport systems when importing data using the Add-In 'Import Google Transit Supply'. Now they are opened only for those transport systems that are actually required. **(13939)**
- Add-In 'Import Google Transit Supply': The 'Import Google Transit Supply' Add-In has been accelerated significantly. **(11681)**
- Add-in 'Import Google Transit Supply': So far, the 'Import Google Transit Supply' Add-In did not handle umlauts in identifiers correctly. This error has been fixed. **(14002)**

COM

- Access to 'Read filter': You can now access the parameters of the 'Read filter' procedure in COM. For this purpose, the new COM object IReadFilterPara has been introduced, which can be reached from IOperation via the access method ReadFilterParameters ([out, retval] IReadFilterPara ** readFilterParameters). **(14020)**
- Access to mode choice matrices: In COM, you can now access the mode choice matrices of the 'Mode choice' (4-step) procedure. For this purpose, the COM object IModeChoiceDStratModePara has been introduced, which can be reached from IModeChoiceDStratPara via the access mode ModeChoiceDStratModeParameters ([in] VARIANT Mode, [out, retval] IModeChoiceDStratModePara ** dStratModeParameters). **(13956)**
- Getting or setting single matrix values: The new methods GetValue / SetValue and GetRow / SetRow to get and set single matrix values or entire rows have been implemented at the object IMatrix. **(13977)**
- Reading filters: You can now read the current filter conditions. To do so, you can iterate over the currently defined filter conditions at each I...filter object and read them via AttValue at the new ICondition objects. Brackets are now placed afterwards around the existing filter conditions and not inserted as terms in brackets. **(12499)**

Foreign Formats

- Reading a database or shapefile additively: The 'Read additively' option is now activated by default when reading a database or shapefile, if the current network is not empty, analogous to reading network files. **(13973)**

Schematic line diagram

- Vehicle journey selection on the basis of line routes: In the schematic line diagram, apart from selecting vehicle journeys, you can now also specify combinations of lines and directions for the displayed supply. The line diagram is then based on all vehicle journeys, which belong to a selected line and direction. In particular vehicle journeys, which have been newly created, do not have to be selected explicitely to be displayed in the schematic line diagram. **(13816)**

Timetable Editor

- Functionalities of the context menu in line selection: The line selection tree of the tool window Timetable lines provides additional context menu functionalities:
  - Copy line route (on line routes)
  - Create opposite direction (on line routes)
  - Remove line routes without allocations to stop sequence (applies to the selected partial tree)
  - Remove line routes with less than two allocations to stop sequence (applies to the selected partial tree)
  - Include missing time profiles in basic line selection (applies to the selected partial tree)
  - Remove from basic line selection (applies to the selected partial tree) **(14012)**
- Header rows in the tabular timetable: In the lower section of the tabular timetable, the header rows visible in the 'Vehicle journeys' view were simplified. In particular, the view no longer jumps when switching between the 'Vehicle journeys' view and the 'Vehicle journey sections' view. **(13913)**
- Tabular timetable: The 'Vehicle journey sections' view in the lower section of the tabular timetable now displays the arrival and departure times of the vehicle journey in addition to the spatial expansion of the vehicle journey section. **(13907)**

Fixed Bugs

Add-Ins

- Add-In 'Matrix Convolution': A version file saved with Visum 12 or earlier versions which contained parameters for the 'Matrix Convolution' Add-In could not be run with Visum 12.5 or later versions. This error has been fixed. **(13981)**

COM

- Adding and removing procedures: Using 'Undo' and 'Redo' or removing a procedure interactively from the procedure sequence no longer causes a crash, if a procedure step has been inserted or deleted previously via COM (methods 'AddOperation' or 'RemoveOperation'). **(13982)**
- Messages during start of program as COM server: When starting Visum as COM server, modal message windows could pop up and prevent the start of the program. This error has been fixed. Messages from this phase can be found in the usual places, e.g. the log file or the message file. **(13992)**
- Modifying block items: So far, the status of the block was not adjusted properly when editing block items via COM (e.g. by setting attribute values using AttValue). This error has been fixed. **(13297)**
- Setting filter conditions: If you specified a string which contained multiple numerical values separated by a comma as value for an attribute with an enumeration type when setting a filter condition via 'AddCondition', first, the program would convert the value into a number and then round it, instead of interpreting each number separately as a variant of the enumeration type. Example: If value "3,6" has been specified for an attribute of type 'Control type', this value was interpreted as 4 according to the variant 'NODECONTROLALLWAYSTOP' and not as 'NODECONTROLPRIORULESSTOP or NODECONTROLPRIORULESYIELD'. This error has been fixed. **(12252)**

Data Model

- Depot reference at block: If a block existed in the network with an explicit reference to a depot (i.e. a stop point has been entered for attribute Depot number) and you deleted this stop point, the version file could not be saved any more. This error has been fixed. **(14025)**
- Multi-deleting couplings: Multi-deleting large numbers of couplings has been accelerated. **(14016)**
- Relative position of stop points: Changing the relative position of a stop point (e.g. in the list or using COM) no longer leads to a crash, if the stop point is located on a node. In this case, the relative position is not relevant anyway. **(13969)**

Dialogs

- Formula dialog: The highlighting of errors in color works again in the different dialogs for formulas. **(13840)**
- Matrix reference in dialog 'OD demand data': On the 'Demand segments' tab of the 'OD demand data' dialog, selecting a matrix by properties for a demand segment while using the 'DSegSet' attribute no longer causes a crash. The value of this attribute of a matrix results from the use for one or more demand segments, which are specified in this dialog. This led to a recursive definition. This recursion is now intercepted. **(13863)**

- Object selection in the graphic parameters dialog: In the graphic parameters dialog, controls no longer overlap on the object selection page of the different bars, if the 'Draw bars only on selected <object name>' option is selected and the dialog is resized. **(13862)**

Filters

- Filter for OD pairs on PuT paths: Visum no longer crashes when evaluating the filter for OD pairs with filter conditions on PuT paths which have fares. **(13997)**

Foreign Formats

- Import of PuT supply from Visum: A crash does not occur any more during the import of PuT supply from Visum, if the target network is empty (no nodes and/or no links). Furthermore, nodes, links, and stop points are created only once in the target network, if line routes of different transport systems require the creation of new infrastructure. Instead, the newly created stop points and links are opened for the additional transport systems. **(13933)**
- Import of PuT suppy from Visum: When importing PuT supply from Visum, for stop points imported into the target network, you can copy the stop point number of the source network into a user-defined attribute in the target network. If multiple stop points were created in the target network for the same stop point of the source network, so far, the number of the source stop point was not used for all new target stop points. This error has been corrected. **(13961)**
- Import of the PuT supply from Visum: Editing a stop no longer leads to a crash if it was created during the import of a PuT supply from Visum. **(13930)**

Formulas

- Editing text attributes: Editing a string value target attribute (e.g. 'Name' at links) or a multi-enum target attribute (e.g. 'TSysSet' at links) with the 'Edit attribute' procedure or Multi-edit in the network editor no longer causes a crash, if the used formula is empty. **(14005)**

Graphics

- Drawing bars: Visum does not crash any more when drawing the network if bars are drawn for an attribute which requires data of the node geometries. **(13052)**
- Scrolling in empty network: The scroll bars did not work correctly in an empty network with just a background map. This error has been fixed. **(13574)**
- Turn volumes of main nodes: Turn volumes of main nodes are now also displayed if a turn attribute, which does not exist for main turns, is selected for an inactive bar. So far, the attributes of all bars, even the inactive ones, had to exist for main turns, too. Moreover, the dialog now displays a message if this requirement for attributes is not met. **(13810)**

Listings

- Saving attribute files from the PuT path list: Saving an attribute file from the PuT path list or PuT path leg list no longer causes a crash when using more than one core. **(13970)**

Main Window

- 'Graphics tools' window and tabular timetable: The program no longer crashes when opening the tabular timetable while the 'Graphics tools (Flow bundle, isochrones, ...)' window is open. **(13964)**

Matrix Editor

- Data loss when saving a version file: An open matrix histogram lost its reference matrix when saving the version file. The data were empty and the window title changed to 'Matrix histogram ()'. This error has been fixed. **(13604)**

PrT Assignment

- Tribut assignment with VOT per OD pair: The program could crash or deliver wrong assignment results when defining the value of time (VOT) per OD pair in one of the two Tribut assignments. This error has been fixed. **(14006)**

Procedure Sequence

- Saving procedure parameters: If you opened a procedure parameters file in the procedure sequence window, saved this file under a different name and then saved the procedure parameters once more, Visum suggested the name of the originally opened procedure parameters file and not the one of the most recently saved file. This error has been fixed. **(13346)**

PuT Assignment

- PuT path lists with fares: The program does not crash any more when displaying PuT path lists (PuT paths, PuT path legs), if fares are displayed as attributes and analysis rows are inserted. **(14013)**

PuT Line Blocking

- Forced chainings during marginal hours: Forced chainings of vehicle journey sections starting after 24h were not regarded correctly in the line blocking calculation. This error has been fixed. **(13991)**

Schematic line diagram, Timetable Editor

- Calculating the stop sequence based on marked edges: Time profiles of marked edges were not always inserted in consistent direction into the line selection, when opening the timetable editor in the schematic line diagram based on the undirected edges marked and adjusting the line selection and the stop sequence. When calculating the stop sequence, this led to the display of line routes in forward direction instead of reverse direction when inserting additional stops. This error has been fixed. **(13955)**

Timetable Editor

- Line selection in the 'Timetable lines' tool window: The 'Line selection' dialog opens much faster when opened in the 'Timetable lines' tool window. **(13918)**

Breaking Changes

COM

- Reading filters: You can now read the current filter conditions. To do so, you can iterate over the currently defined filter conditions at each I...filter object and read them via AttValue at the new ICondition objects. Brackets are now placed around the existing filter conditions afterwards and not inserted as terms in brackets with the method 'AddBracketedCondition'. Scripts, which used the 'AddBracketedCondition' so far, need to be adjusted. **(12499)**

14.00-01 [88975] 2014-07-14

New Features and Changes

Add-Ins

- Add-In 'Create Regular Timetable': The 'Create Regular Timetable' Add-In, which can be used to create an exclusive regular timetable for PuT lines, has been accelerated. **(13889)**

Data Model

- Attributes for number and name: Additional attributes have been created for the objects vehicle journey and vehicle journey section, which display both the number and the code or name of the object (in case of time profile items number and code of the stop point where the time profile item is located) for reference objects (operator, valid day, vehicle combination, From time profile item and To time profile item). These attributes can be used in the tabular timetable to display both values in the same, editable cell. They have been added to the default attribute selection of the tabular timetable as well as to that of the vehicle journeys and vehicle journey sections list. **(13929)**

Dialogs

- Procedure parameters dialog 'EVA distribution/mode choice': You can now group and sort the parameters dialog of the procedure 'EVA distribution/mode choice' by column. Moreover, the program provides better support of copy and paste for the matrix reference. **(13847)**

Graphical Procedures

- Display of modified flow bundle terms: The values of a flow bundle term, e.g. the choice of demand segments or of the demand (in case of public transport) are now selected in a list. This way, the differences between the current settings and the settings valid during the last calculation of the flow bundle are now all highlighted in color. **(13748)**

Listings

- Opening PuT path lists: Opening the lists 'PuT path', 'PuT path legs', and 'PuT OD pairs' in large networks has been accelerated. **(13711)**

Other Procedures

- 'Intersect' procedure: The 'Intersect' procedure as well as the correspondent Multi-edit functionality are now faster when intersecting source objects that have polygons. **(13893)**

Schematic line diagram

- Bundle edges by regular service patterns: Edges are now bundled more often when bundling edges by regular service patterns. More precisely, edges are now also bundled, if one of the edges contains not only vehicle journeys of a service trip pattern but also vehicle journeys that do not belong to any service trip pattern (thus 'outliers'), however not if the contained vehicle journeys belong to different service trip patterns. Moreover, when calculating the service trip patterns, you can now select whether you want to maximize the frequency or the temporal dimensions of the service trip patterns, analogous to the procedure 'Calculate service trip patterns'. **(13945)**

Timetable Editor

- Allocations of line routes to stop sequence items: Existing allocations of line routes to items of the stop sequence are now copied when copying line routes (in the context of the operations 'Copy line route', 'Shift vehicle journeys to a different line', 'Edit vehicle journey items' and 'Disaggregate line routes'). Consequently, the new line route is allocated to the same stops as the original. **(13860)**
- Graphical timetable: In the graphical timetable, you can now also edit vehicle journey sections using the context-sensitive menu of a marked vehicle journey. **(13905)**
- Marking in the tabular timetable: The logic of the marking in the tabular timetable has been simplified. Now, either vehicle journeys or vehicle journey sections are marked. When marking a vehicle journey section, the column header of the corresponding vehicle journey is highlighted and included in the global marking (and thus displayed in the network editor and the quick view), if synchronisation has been activated. Double-clicking cells which cannot be edited opens the respective Edit dialog of the vehicle journey or vehicle journey section, the 'Del' button deletes it. **(13904)**
- Opening both timetable views: In the context of lines, line routes, when marking links, stops or stop points in the network editor, and in the schematic line diagram, you can now open both timetables (graphical and tabular) at once. Queries regarding the adjustment of the stop sequence will only be issued once in this case. **(13914)**
- Vehicle journey sections in the tabular timetable: In the tabular timetable, the context-sensitive menu of the vehicle journey sections now also provides entries, if multiple vehicle journey sections are marked. **(13909)**

Fixed Bugs

Add-Ins

- Add-in 'Matrix Convolution': Running the 'Matrix Convolution' add-in used to produce an error message when using the 'Use via zone given in matrix' option. This error has been fixed. **(13888)**

COM

- 'Run script' procedure: If the python script code is contained directly in the procedure parameters rather than in a script file during a procedure step 'Run script', the 'import VisumPy.helpers' directive fails when running the procedure. This error has been fixed. **(13940)**
- Clear the stop sequence: The information whether the stop sequence is reversed or not survives a call to the ClearStopSequence(False) method on an object of type ILineSelectionAndStopSequence. This error has been fixed. **(13971)**
- Methods with a return value of type VARIANT_BOOL: Most of the COM methods and properties that have a return value or output parameter of the type 'VARIANT_BOOL' falsely return value 1 instead of VARIANT_TRUE (-1). This regards:
  * Active for objects
  * AttState for containers
  * IsColumnEditable for lists
  * IsSortable for lists
  * IAddInParameter::ok
  * IAddNetRead::NumericOffsetUseCompression
  * IAddNetRead::OfferAlphaPrefix
  * IAddNetRead::OfferNumericOffset
  * IAddNetRead::UseAlphaPrefix
  * IAddNetRead::UseNumericOffset
  * IAttribute::Editable
  * IAttribute::Scaled

* IBackground::Draw
* IBackground::Transparent
* IBlock::Check
* IBlockVersion::CheckBlocks
* IBlockVersion::CheckCoverage
* ICategoryFilter::Complement
* ICategoryFilter::IncludeSubCategories
* ICategoryFilter::UseFilter
* IConditions::UseFilter
* IConnectors::ExistsByKey
* IDirectedFilter::Complement
* IDirectedFilter::Undirected
* IDirectedFilter::UseFilter
* IFlowBundle::ConditionDefined
* IGetNearestLinkResult::Success
* IGetNearestNodeResult::Success
* IGraphic::StopDrawing
* IGraphicalTimetable::ShowOnlyActiveVehJourneys
* IGroupElementFilter::UseFilter
* IGroupElementFilter::UseSelection
* IImportShapefilePara::CreateUserDefinedAttributes
* IImportShapefilePara::SetAttributeAllocationsByIDs
* IIterator::Active
* IIterator::Valid
* ILineGroupFilter::UseFilterForLineRouteItems
* ILineGroupFilter::UseFilterForLineRoutes
* ILineGroupFilter::UseFilterForLines
* ILineGroupFilter::UseFilterForTimeProfileItems
* ILineGroupFilter::UseFilterForTimeProfiles
* ILineGroupFilter::UseFilterForVehJourneyItems
* ILineGroupFilter::UseFilterForVehJourneySections
* ILineGroupFilter::UseFilterForVehJourneys
* ILineRouteItemList::SectionViewMode
* ILineSelectionAndStopSequence::HideUnservedStops
* ILineSelectionAndStopSequence::StopSequenceIsEditable
* ILinks::LinkExistsByKey
* IMainTurns::MainTurnExistsByKey
* IMarking::Changed
* IMarking::IncludePOISubCategories
* INet::AllCouplingsConsistent
* INet::AllLinksUniqueOnLineRoutes
* INet::GetNearestLink
* INet::GetNearestLinkCacheActive
* INet::GetNearestNode
* INetObjGroupGPA::Draw
* INodes::NodeExistsByKey
* IODPairFilter::Complement
* IODPairFilter::FilterNetworkVolumes
* IODPairFilter::UseFilter
* IOperationExecutor::IsExecuting
* IOperationExecutor::ProcedureFlowFinished
* IPathGroupFilter::UseFilterForPathItems
* IPathGroupFilter::UseFilterForPathSets
* IPathGroupFilter::UseFilterForPaths
* IProcedures::AssignmentCalculated
* IProcedures::IsExecuting
* IProcedures::OperationCalculated
* IPropagationLinkInfos::PropagationLinkInfoExistsByKey
* ISingleFilter::Complement
* ISingleFilter::UseFilter
* IStopGroupFilter::UseFilterForStopAreas
* IStopGroupFilter::UseFilterForStopPoints
* IStopGroupFilter::UseFilterForStops
* ISysRouteItemList::SectionViewMode
* ITabularTimetable::ShowOnlyActiveVehJourneys
* ITabularTimetable::ShowVehicleJourneySectionCourse
* ITimeProfileItemList::SectionViewMode

* ITurns::TurnExistsByKey
* IUserPreferences::AdoptFileName
* IUserPreferences::SaveUserPreferencesToRegistryOnClose
* IVehJourneyItemList::SectionViewMode
* IVisum::AcceptIncomingDuringOutgoingCalls
* IVisum::Embedded
* IVisum::ExportAllNumbersAsDoubles
* IVisum::GetModule
* IVisum::IsJunctionEditorRunning
* IWorkbench::IsBlockDisplayRunning
* IWorkbench::IsGraphicalTimetableRunning
* IWorkbench::IsJunctionEditorRunning
* IWorkbench::IsTabularTimetableRunning

This error has been corrected. The standard method AttValue is not affected. **(13949)**

Dialogs

- Edit line route dialog: Specific error messages, e.g. one stating that the assignment result will be discarded, were issued twice, when making changes in the 'Edit line route' dialog. This error has been fixed. **(13900)**
- Finding network objects in the network merge mode: An error message used to be issued when opening the attribute selection in the network object search while in network merge mode. This error has been fixed. **(13790)**
- Finding network objects: The network object search did not find matching network objects if the matching data were contained in attributes with subattributes. This error has been fixed. **(13890)**
- Matrix selection by property: On the 'Select matrix by properties' tab in the matrix selection dialog, you can now mark rows by clicking the respective headers. **(13866)**
- Operand selection in the Matrix editor: In the dialog 'Select the operand for ... on the total matrix' that allows you to select an operand for multiplication, addition, etc., in the Matrix editor, the decimal separator selected under User Preferences was not activated. In addition, the error message regarding wrong entries was displayed twice. Both errors have been fixed. **(13771)**
- Parameters dialog of the 'EVA weighting' procedure: In the procedure parameters dialog of the 'EVA weighting' procedure, switching the 'Generalized cost' option causes a change of the control element for the specification of these costs. However, this only happened when activating the option, not when deactivating it. This error has been fixed. **(13941)**
- Procedure parameters 'Tour-based model - combined distribution/mode choice': In the procedure parameters dialog of the 'Tour-based model - combined distribution/mode choice' procedure, the unjustified error message 'Assignment operator ':=' expected' used to be issued when closing the subdialog for the utility function in the Mode choice tab and modified values were not saved. This error has been fixed. **(13855)**

Foreign Formats

- Import of OpenStreetMap, SATURN and VDV452: Cancelling the reading process of the network file in the progress dialog while importing the formats OpenStreetMap, SATURN and VDV452 no longer causes a crash. **(13932)**
- OpenStreetMap import, VDV452 import: The import of OpenStreetMap data and VDV452 data is now successful even if the string of a name contains a dollar sign ('$'). During the import, it will be replaced by the paragraph sign ('§'). **(13861)**
- VDV452 export of blocks: When exporting blocks into the VDV452 format, to avoid gaps in the blocks, inactive vehicle journey sections are now exported as empty trips, if the 'Export only active vehicle journey sections' option is activated. **(13880)**
- VDV452 export: During a VDV452 export, only numerical attributes can now be selected from the Visum data model for the VDV key columns (the export failed when selecting strings). In return, the block ID is no longer saved in the block attribute 'code' during the VDV452 import, but in a numerical user-defined attribute, so that it can be reused from there during the export. **(13883)**

Graphical Procedures

- Modification of flow bundle conditions: When comparing the flow bundle conditions with the conditions used during the last execution, PrT conditions could be falsely compared with PuT conditions resulting in an incorrect display of deviating conditions. This error has been fixed. **(13872)**

Graphics

- Legend for line bars: For line bars of main lines, so far, the legend used to display the graphic parameters for transport systems if the order of the objects had been changed. Nothing was displayed for transport systems in this case. The error has been fixed. **(13884)**

Installation

- /SILENT setup: When running multiple automated installations (option /SILENT) on the same computer, the second setup used to delete the start menu entry of the first installation. This error has been fixed. **(13281)**

Listings

- Analysis rows in the PrT path list: Visum no longer crashes when you activate an analysis row (sum, minimum, maximum, average) in the PrT path list or the PrT path leg list. **(13965)**

Main Window

- Quick view: When changing the network object type of the marking, the quick view displayed the data of the new network object (in the layout specified for this network object type). However, the name of the network object type in the title bar was not updated. This error has been fixed. **(13908)**

Miscellaneous

- Log files: When for the Visum log files 'Protocol.txt' and 'Messages.txt', you specified different paths than the default ones, using the cfg file during program start, these two files were not created. This error has been fixed. **(11643)**
- Matrix swap file: Visum did not start, if the directory specified for the matrix swap file was not writable or did not exist. Subsequently, the directory could not be edited either, unless the respective entries were deleted in the registry. This error has been fixed. The program now attempts to use the default path. If the matrix swap file cannot be created here, the program starts without the matrix swap file. **(13770)**
- User settings for log file: So far, the program used to ignore the settings for the log file on how to behave during the start of Visum and used the setting specified for the message file for both files instead. This error has been fixed. **(13942)**

Network Editor

- Multi-deleting nodes (with two legs): Memory consumption went up when deleting multiple nodes with two legs using the option that connects the links in case of a great number of nodes to be deleted despite using the 'Clear Undo stack to save RAM' option. This error has been fixed. At the same time, the run time has been accelerated and misleading messages regarding the positioning of stop points are suppressed if stop points are not involved. **(13851)**

Other Procedures

- 'Intersect' procedure: The progress indicator of the 'Intersect' procedure has been improved. **(13856)**

PrT Assignment

- Closures of connectors: In case a connector was not permitted for a PrT transport system, this closure was ignored if the 't_cur' attribute was not part of the volume delay function for connectors. This error occurred since ID 13204 (contained in Visum 13.00-12 and Visum 14.00-00) and has now been fixed. **(13899)**
- ICA calculation for signalized nodes: The ICA calculation for signalized nodes could result in false allocations of the volume to the individual lanes in case of lane allocations with shared lanes. This error has been fixed. **(13820)**
- Multiple assignments with MPA and blocking back calculations: Visum no longer crashes when successively calculating multiple PrT assignments for different demand segments in a procedure sequence while both MPA and the blocking back calculation are active. **(13885)**

PuT Assignment

- Reading a connection file: Reading a connection file (.*con) which did not contain any connections led to an infinite loop. This error has been fixed. **(13896)**

PuT Line Blocking

- Line blocking with vehicle interchange: The program no longer crashes during line blocking with vehicle interchange, if the 'Same operator for next vehicle journey' option is selected for succeeding vehicle journeys, yet there are vehicle journeys with and without operators. **(13919)**

Timetable Editor

- Scrolling in the tabular timetable: The program no longer crashes when scrolling in the tabular timetable if not all of the vehilce journey sections fit the screen. **(13917)**

Timetable Editor, Network Editor

- Deleting multiple lines: When deleting multiple lines, stop sequences could still contain references to the deleted lines. Subsequent operations, particularly saving a version file or the layout file of the timetable lines, then led to a crash. This error has been fixed. **(13898)**

VISUM Files

- References to sig files: If a version file contains signal controls with external controls (VISSIG) but no VISSIG license exists, the program no longer issues messages when reading the version file. The signal control then acts like a signal group based internal fixed time control and uses the green times provided by the Visum data model. Then, however, it is not possible to switch between different signal programs. The reference to the *.sig file is yet maintained. **(13783)**

Breaking Changes

COM

- Methods with a return value of type VARIANT_BOOL: Most of the COM methods and properties that have a return value or output parameter of the type 'VARIANT_BOOL' falsely return value 1 instead of VARIANT_TRUE (-1). This regards:
  * Active for objects
  * AttState for containers
  * IsColumnEditable for lists
  * IsSortable for lists
  * IAddInParameter::ok
  * IAddNetRead::NumericOffsetUseCompression
  * IAddNetRead::OfferAlphaPrefix
  * IAddNetRead::OfferNumericOffset
  * IAddNetRead::UseAlphaPrefix
  * IAddNetRead::UseNumericOffset
  * IAttribute::Editable
  * IAttribute::Scaled
  * IBackground::Draw
  * IBackground::Transparent
  * IBlock::Check
  * IBlockVersion::CheckBlocks
  * IBlockVersion::CheckCoverage
  * ICategoryFilter::Complement
  * ICategoryFilter::IncludeSubCategories
  * ICategoryFilter::UseFilter
  * IConditions::UseFilter
  * IConnectors::ExistsByKey
  * IDirectedFilter::Complement
  * IDirectedFilter::Undirected
  * IDirectedFilter::UseFilter
  * IFlowBundle::ConditionDefined
  * IGetNearestLinkResult::Success
  * IGetNearestNodeResult::Success
  * IGraphic::StopDrawing
  * IGraphicalTimetable::ShowOnlyActiveVehJourneys
  * IGroupElementFilter::UseFilter
  * IGroupElementFilter::UseSelection
  * IImportShapefilePara::CreateUserDefinedAttributes
  * IImportShapefilePara::SetAttributeAllocationsByIDs
  * IIterator::Active
  * IIterator::Valid
  * ILineGroupFilter::UseFilterForLineRouteItems
  * ILineGroupFilter::UseFilterForLineRoutes
  * ILineGroupFilter::UseFilterForLines
  * ILineGroupFilter::UseFilterForTimeProfileItems
  * ILineGroupFilter::UseFilterForTimeProfiles
  * ILineGroupFilter::UseFilterForVehJourneyItems
  * ILineGroupFilter::UseFilterForVehJourneySections
  * ILineGroupFilter::UseFilterForVehJourneys
  * ILineRouteItemList::SectionViewMode
  * ILineSelectionAndStopSequence::HideUnservedStops
  * ILineSelectionAndStopSequence::StopSequenceIsEditable
  * ILinks::LinkExistsByKey

* IMainTurns::MainTurnExistsByKey
* IMarking::Changed
* IMarking::IncludePOISubCategories
* INet::AllCouplingsConsistent
* INet::AllLinksUniqueOnLineRoutes
* INet::GetNearestLink
* INet::GetNearestLinkCacheActive
* INet::GetNearestNode
* INetObjGroupGPA::Draw
* INodes::NodeExistsByKey
* IODPairFilter::Complement
* IODPairFilter::FilterNetworkVolumes
* IODPairFilter::UseFilter
* IOperationExecutor::IsExecuting
* IOperationExecutor::ProcedureFlowFinished
* IPathGroupFilter::UseFilterForPathItems
* IPathGroupFilter::UseFilterForPathSets
* IPathGroupFilter::UseFilterForPaths
* IProcedures::AssignmentCalculated
* IProcedures::IsExecuting
* IProcedures::OperationCalculated
* IPropagationLinkInfos::PropagationLinkInfoExistsByKey
* ISingleFilter::Complement
* ISingleFilter::UseFilter
* IStopGroupFilter::UseFilterForStopAreas
* IStopGroupFilter::UseFilterForStopPoints
* IStopGroupFilter::UseFilterForStops
* ISysRouteItemList::SectionViewMode
* ITabularTimetable::ShowOnlyActiveVehJourneys
* ITabularTimetable::ShowVehicleJourneySectionCourse
* ITimeProfileItemList::SectionViewMode
* ITurns::TurnExistsByKey
* IUserPreferences::AdoptFileName
* IUserPreferences::SaveUserPreferencesToRegistryOnClose
* IVehJourneyItemList::SectionViewMode
* IVisum::AcceptIncomingDuringOutgoingCalls
* IVisum::Embedded
* IVisum::ExportAllNumbersAsDoubles
* IVisum::GetModule
* IVisum::IsJunctionEditorRunning
* IWorkbench::IsBlockDisplayRunning
* IWorkbench::IsGraphicalTimetableRunning
* IWorkbench::IsJunctionEditorRunning
* IWorkbench::IsTabularTimetableRunning

This error has been corrected. The standard method AttValue is not affected. **(13949 ✓)**

Data Model

- Attributes for number and name: Additional attributes have been created for the objects vehicle journey and vehicle journey section, which display both the number and the code or name of the object (in case of time profile items number and code of the stop point where the time profile item is located) for reference objects (operator, valid day, vehicle combination, From time profile item and To time profile item). These attributes can be used in the tabular timetable to display both values in the same, editable cell. They have been added to the default attribute selection of the tabular timetable as well as to that of the vehicle journeys and vehicle journey sections list. **(13929 +)**

PrT Assignment

- Closures of connectors: In case a connector was not permitted for a PrT transport system, this closure was ignored if the 't_cur' attribute was not part of the volume delay function for connectors. This error occurred since ID 13204 (contained in Visum 13.00-12 and Visum 14.00-00) and has now been fixed. As a result, assignment results of the affected transport systems change in the networks concerned. **(13899 ✓)**
- ICA calculation for signalized nodes: The ICA calculation for signalized nodes could result in false allocations of the volume to the individual lanes in case of lane allocations with shared lanes. This error has been fixed. This leads to different assignment results of assignments with ICA. **(13820 ✓)**

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New Features and Changes

ANM

- ANM export: The number of decimal places for coordinates can now be set in the ANM export parameters. By default the maximum number of decimal places are written to the .anm file. **(13557)**
- Settings for other objects in the ANM export: Optionally, it is possible to select user-defined attributes for the saturation flow rates of links and turns and the SC coordination group. If selected, the values will be saved in the ANM file. **(11654)**
- Upward compatibility of ANM files: ANM files can now also be opened in older release versions of Visum. The upward compatibility applies to release version from Visum 14 onwards. **(11863)**

Add-Ins

- Buffers Around PuT Lines: Add-In 'Buffers Around PuT Lines' now has the option to create buffers only based on stop points with active time profile items. **(11682)**
- Import of DIVAGeo network files: A new Add-In for the import of DIVAGeo network files is available. **(13291)**

COM

- Access to Scenario management: The COM interface has been extended to enable access to the scenario management. It allows access to the most important objects and functions within the scenario management. **(4926)**
- Add main zone matrices: Main zone matrices can now be added via the COM interface. **(12434)**
- Convenience functionality for formulas: New COM functionality is offered to facilitate the creation of correct strings for formulas. **(12532)**
- Export to VDV452 through COM: The export of Public Transport data to the VDV452 format can now be initiated through the COM function Visum.ExportVDV452Data. **(12831)**
- Extension of shortest path search for PuT: The extension periods can now be accessed via the COM interface. **(13429 !)**
- Filtering in Path lists: The enumeration routeFilter_filterFromZoneFilter of routeFilterT is now always active, i.e. is also effective in combination with other members of routeFilterT enumeration. If no origin zone is given, the origin zone filter does not take effect. **(13710 !)**
- JPG-Export by coordinates: Via COM screenshots cannot only be created as a whole view, but also as an image section by defining coordinates. **(12658)**
- MapMatcher default algorithm: The default matching algorithm of the MapMatcher has been changed from 'Incremental' to 'Global'. **(13150 !)**
- MapMatcher: The IMapMatcher-object now gets initialized on creation and does no longer require an explicit call of the Initialize()-method. The method has therefore been removed. All changes to nodes and links of the network are now automatically reflected in the mapmatching process. **(12177 !)**
- MapMatcher: The evaluation of detours of an edge has been modified. The value used for the evaluation is calculated using the formula (TypicalCostPer1000Meters / 1000) * (direct distance of the match points) / (cost of the edge). For that reason the method 'EstimateTypicalCostPer1000Meters' of the IMapMatchingParameters has been added. **(13750 !)**
- Net parameters: An AskAttribute method for net parameters has been added. **(10511)**
- Refactoring and Speedup of GetNearestLink / GetNearestNode: The methods Visum.Net.GetNearestLink and Visum.Net.GetNearestNode have been moved from Visum.Net to the IMapMatcher-object. GetNearestNode now operates much faster when called frequently, and GetNearestLinks can now optionally consider both directions of links to also match oneway roads independent from the direction of traffic. Both methods have been refactored and now return the results as output objects with properties providing the details, instead of using multiple output arguments which were difficult to handle by scripting languages. The old methods will be removed in one of the next releases. **(3636 !)**
- SVG-Export by coordinates: SVG files can be exported via COM for a section by defining parameters for coordinates. **(13035)**
- Schematic line diagram: A new COM class for the schematic line diagram is available. **(13519)**
- Time-varying attributes: Time-varying attributes can now be accessed via COM. **(7025)**
- Timetable editor: The COM interface for the timetable editor has been changed as a consequence of the redesign. **(13151 !)**

Data Model

- Additional relations and userdefined attributes: For matrices additional relations to other network objects are provided. These include especially network objects of the demand model. Also, there are new relations for demand strata to person groups and activity pairs. For network objects such as person group, activity and activity pair userdefined attributes can be defined. **(13097)**

- Attribute passenger kilometers: The attribute passenger kilometers (or passenger miles) is also calculated for the network object vehicle journey item. **(13566)**
- Demand description: The demand description (.dmd) can contain matrices which are defined by properties instead of their numbers. **(13099)**
- More time-varying attributes: Time-varying attributes can also be defined for demand segments. **(13428)**
- New attribute for block element: A new input attribute 'Used system route name' for block elements has been added. This attribute can be used to allocate system routes for empty trips. **(13292)**
- Node geometry: The leg attribute 'ICA inscribed circle diameter' has been renamed in 'Roundabout inscribed circle diameter' and is now also used for the ANM Export of the roundabout geometry. **(12843)**
- Result matrices of demand calculations: For the standard 4-step model and the EVA demand model the result matrices for trip distribution and mode choice are now defined in the corresponding procedures of the demand calculation. **(13098)**
- Specific transfer walk times: Specific walk times can now be defined for pairs of the combination line and direction. Specific walk times of this type overwrite specific walk times of transport systems (if defined) and walk times between stop areas. **(12651)**
- Time varying attributes: User-defined attributes can now also be defined for time-varying attributes. This can be done in the .net file or via the COM interface. **(13316)**
- Turns, ICA: You can no longer edit the attributes 'ICA final capacity', 'ICA final saturation flow rate', and 'ICA final volume'. **(13109)**
- Aggregation function 'Compare': A new aggregation function 'Compare' is available for indirect attributes. If all related objects share the same value for an attribute, the function returns this value. If the values are not all equal, '*' is returned. **(13195)**
- Create matrices: The dialog 'Create matrices' has been modified. Besides the option to define a fixed number of matrices with pre-defined properties also matrix references can now be used to create matrices. External matrices can now be created via the menu 'Edit + Matrix editor + Generate external matrices…' or via the context menu of the tool window Matrices. **(13106)**
- Formular matrices as demand matrices: Formular matrices can now be assigned as demand matrices for demand segments. Thereby, they can e.g. be used as demand matrices in assignments. **(12709)**
- Matrix references: Matrices can either be defined using their unique matrix number or their properties. Properties are combinations of attribute values which identify one or several matrices. The second option is now available in various dialogs of the program. **(11314)**

Demand procedures

- Estimate gravitation parameters: If the option 'Preset class limits and shares' is used, it can be defined to which interval the class limits belong. **(11903)**
- Load model templates: Using VISEM model template files (*.vhd) is no longer supported. **(13133)**
- Matrix references: In the procedures of demand calculation matrix references via properties can now be used to define input and output matrices of the procedures. **(13103)**
- Tour-based model: Formulas can now be used for the definition of the utility functions. **(13683)**
- Visem Rubberbanding: This function helps to shape trip chains that are directed to a defined main activity. For a main activity workplace the destination choice of an assumed prior Activity shopping considers the location of the workplace. The chosen shopping location is now on the way to the workplace, the trip chains become much more realistic. **(10593)**

Dialogs

- Classified display: Editing class limits has been improved. In particular, it is now possible to define all class limits for the user-defined distribution of class limits. **(12585)**
- Edit line route: Under the Tab 'Item and time profile' it is additionally possible to restrict the visible rows to all profile points. **(11019)**
- Export/Import: Several export and import dialogs (e.g.. ANM, HAFAS, railML) have been improved to clarify the functionality of the buttons. **(12558)**
- Graphic parameters of POI categories: The context menu entries 'Edit graphic parameters for POI category...' and 'Apply the POI category's graphic parameters to the sub-categories' are only enabled when a POI category is selected. **(11839)**
- Miscellaneous dialogs: The operating mode of scroll bars has been corrected in several dialogs. **(13283)**
- Open networks: The option 'Read network file additionally' is now by default switched on. **(12447)**
- Operators in formulas: The button for inserting operators in formulas has been improved. **(13354)**
- Parameterdialog of timetable-based assignment: The tab 'Skim matrices' has been shifted to the left. **(13531)**
- Presetting for alias name: When a new alias is created, the name of the attribute is entered as a presetting. This applies both for entry via attribute selection dialog and menu. **(10884)**

- User preferences: The COM server registration has been removed from the user preferences and can now be found under menu 'Help' -> 'Register as COM Server'. The options to reset dialog positions, grid settings and the window configuration has also been removed from the user preferences. These options are now under menu 'View' -> 'User interface'. **(12534)**

Filter

- The option 'undirected' is now also available in filters for turns and main turns. **(13807)**

Foreign formats

- General import of PuT supply data: PuT supply data can be transferred from one Visum version to another version for example to map line route courses to the road network. This import of PuT data replaces the Add-In 'Import Transit Supply' but contains extended functionality to update the existing PuT supply with new data from another Visumversion without losing information of the existing supply. **(11441)**
- HAFAS Import: Additional information (category, fare group, supplement, code of local transit, output control) are shown under Tab 'Transport systems'. **(10396)**
- In the VDV452 Export it is optional possible to also consider line blocks of a selected block version for a selected calendar day. **(12774)**
- OpenStreetMap import: The OpenStreetMap import can now automatically clip the data to a specific region defined by geographic coordinates. This allows to directly use input files for countries or states as provided by services like www.geofabrik.de. You can specify whether objects which are only partially contained in the clipping region are preserved in the import. **(12086)**
- The VDV452 Import also considers line blocks if they are present in the original file that is imported. **(12773)**

Formulas

- Calculation of several matrices: The procedure Combination of matrices and vectors allows several matrices to be calculated in one procedure. Result matrices and optionally inputs are selected by properties. The calculation iterates over one or more of these properties, e.g. the demand strata and modes of a demand model, and produces the corresponding outputs. **(13102)**
- Matrix formulas: Matrix formulas have been extended by functions such as sum, minimum, maximum, average and product. These functions are applied to elements of the matrices. **(13100)**
- New function If-Then-Else: A new function for formulas has been added which allows expressions of the form If-Then-Else to be defined. **(13390)**

Graphical procedures

- Flow bundle calculation: Changes of the settings compared to the last execution of the calculation are now highlighted in the flow bundle dialog. Additionally, it is possible to reset the settings to those used in the last execution of the calculation. **(12657)**
- Flow bundle dialog: The flow bundle conditions can be changed afterwards by selecting another network object. **(11802)**

Graphics

- Calculation of Min/Max values for bars: The calculation of minimum and maximum values for the display of bars does not delay the display of the graphic parameter dialog. **(12618)**
- Editing the graphic parameters of the matrix editor: The workflow for editing graphic parameters of the classified display has been improved. **(11852)**
- Options for displaying polygone boundaries: Line width and line style for polygone boundaries (e.g. of zones, territories, POIs) are now user-defined. **(9487)**
- Settings for screenshots: Settings for resolution and quality for screenshots are saved during a Visum session. **(13147)**

Installation

- .NET-Framework: The installation now contains the .NET-Framework 4.5 instead of 4.0 if it is not already installed on the system. **(13525)**
- CodeMeter Runtime: The CodeMeter Runtime shipped with Visum has been updated to version 5.10c. **(12880)**
- Visum Engine: A new license variant of Visum is available, which can only be used as calculation node in combination with the add-on module Distributed Computing. **(12301)**

Junction editor

- Vissim node preview: The preview has been updated to version PTV Vissim 6. **(13707)**

Listings

- Access from PuT OD-pairs to PuT path: In list for PuT OD pairs the object PuT path can be accessed with indirect attribute. **(12664)**
- Calculation of analysis rows: The calculation of analysis rows has been sped up. **(11805)**
- Export of OD pair and path lists: The export of OD pair lists as well as the path lists have been sped up. **(12663)**
- List (PuT transfer objects): Additional options for the evaluation of boarding and alighting passengers are included. For passengers transferring the From time profile and To time profile can optionally selected separately. **(12670)**
- New aggregate function: For attributes of type Instant of time a new aggregate function headway is available. If the points in time correspond to a headway pattern similar to the procedure 'Calculate service trip pattern' then the headways are returned as strings. **(13686)**
- New lists for demand objects and filter for matrices: Lists for person groups, activities, and activity pairs have been added. A filter condition for matrices can be defined directly in the matrix list. The filter applies to the corresponding matrix list only. **(13107)**
- Opening the PuT path list and the list of PuT relations has been sped up. **(13795)**
- Path lists: When opening path lists by default an origin zone filter is applied. **(12666)**

Main Window

- Tool bar Functions: The button 'About' has been removed from the tool bar 'Functions'. **(12001)**
- View Messages: The content of the message view can now be copied. **(13277)**

Miscellaneous

- Number of callable instances of Visum: The number of Visum instances, that can be started on one machine has been limited to five. **(13720)**
- User preferences: The default option for the matrix swap file has been changed. The option 'Activate swap file' is now switched off. **(13224)**

Network Editor

- Cancellation during inserting new partial faces: When inserting new partial faces for objects with surfaces, cancellation via the Esc-button returns to the mode 'Edit shape'. **(13051)**
- Creating PuT stops on nodes: Stops/Stop areas/Stop points can be created on all (active) nodes via multi-edit function. Optionally transfer times can be set from a node attribute. **(12661)**
- Edit shape of line routes and PrT paths: The new spatial course is shown when editing the shape of line routes and PrT paths interactively. **(10171)**
- Network check 'Lines without fare system': A new option for Network checks enables to identify PT lines without fare systems. **(12665)**
- Right-click logic in network editor: When an object is right-clicked, it opens not any longer the context menu of the object selected previously, but selection switches to the new object and opens directly its context menu. **(12510)**
- Splitting links according to length: Links can be split with explicit entry of split position. **(12659)**
- Tool for distance measurement in network editor: Distances in the network view can be measured by drawing up a line polygon. The polygon can include an unlimited number of intermediate points that can be snapped to point objects. **(5702)**
- Undo for altering allocated stop for stop areas: When the alteration of an allocated stop for a stop area is undone, the transfer walk time for that stop area is restored as well. **(1806)**

Network comparisons

- Enhancement of model transfer files: The model transfer file includes additional tables of network objects and their attributes which were compared when generating the model transfer file. This information can optionally be displayed in the view of a model transfer file. **(9540)**

Network editor

- Aggregation of line routes and time profiles: The default settings for the aggregation of line routes and time profiles have been adjusted. **(13648)**
- Edit shape of courses: When editing the shape of line routes or paths the direction of the first and last link, respectively, is now highlighted. Additionally, it is possible to directly select a node or stop point for the course via the context menu. **(12186)**
- Marking of vehicle journeys: Vehicle journeys can now be marked in the network editor, lists etc. and synchronzation of this marking across windows (e.g. with the timetable editor) is possible. This also allows to have a quick view window for vehicle journey attributes. **(13201)**

- Network objects with surfaces: Objects like zones, main zones, territories or POIs with surfaces can be converted from one network object to another. **(8796)**
- Renumbering: Network objects can be renumbered starting with numbers from 1. **(11975)**
- Selection of POIs: The selection tool for POIs can now optionally only select POIs of a specific POI category or it's sub-categories. The selectable POI category is defined through an arrow-button on the POI-button in the network object toolwindow. **(11161)**
- Split link: When splitting a link, the preview now shows its new course. **(9932)**

Other procedures

- Blocking back model: The 2nd phase (relief of congestion) of the blocking back calculation has been removed. **(12363)**
- Blocking back model: The option 'during assignment' for the blocking back calculation has been removed. **(12362)**
- Go to procedure: The number of minimum iterations can now be defined. In addition, the logical operator for the maximum number of iterations has been adjusted to '<' in the dialog. This is now in line with the internally used criterion for this comparison. **(11976)**
- Intersect: The procedure has been multi-threaded. **(8846)**
- Set run and dwell times: Optionally the travel times of turns and main turns can be taken into account when updating the run times for public transport. **(11264)**

PrT Assignment

- General procedure settings: The parameter 'Maximum tCur' for roundabouts has been added. **(12725)**
- General settings for the ICA calculation: The setting 'tCur update' has been removed, because only the option 'Before and during assignment' is maintained. This option has been adjusted as follows: If the assignment uses the current assignment result as initial solution, the update of tCur is based on the results of the existing assignment, otherwise the assignment result is initialised for the corresponding demand segment and then tCur is updated. **(13326)**
- ICA calculation for roundabouts (HCM): If for a leg a bypass is defined, the attribute 'Bypass Control' on the source leg is used to determine whether the bypass is yielding or non-yielding. The lane capacity will be set to 100000, the delay will be 0 if the attribute value for ‘Bypass Control’ is 'Without' or 'Target lane'. The values are calculated using Equations 21-6 and 21-7 of the HCM if the value is 'Yield right of way' or 'Stop'. **(13757)**
- ICA calculation for roundabouts (HCM): The value A will be calculated according to Chapter 33 of the HCM2010 if and only if the overwrite flag for follow-up time is set. For this Equation 21-22 will be used. Otherwise the value A will be determined according to the first part of Chapter 21 of the HCM2010. This means that the defaults from Page 33-3 for follow-up time will never be used for A. **(13756)**
- ICA, Kimber: The turn capacity for turns of roundabouts which are calculated using the Kimber method is now set to the approach capacity. **(13540)**

Procedure sequence

- Computation nodes: The management of computation nodes is organized in a separate view which can be found under View - Computation nodes. **(13171)**
- Parallel calculation of procedures: It is possible to run individual procedures respectively groups of procedures in parallel if they are independent from each other. This is possible both on different computers and in several processes on the same computer. As an example, assignments for highway and PT normally can be calculated in parallel, as long as there are no interdependencies, such as travel times. **(11437)**

PuT Assignment

- Calculate PuT skim matices: It is now possible to calculate skim matrices for several analysis time intervals within the assignment period from one PuT assignment (headway-based and timetable based). **(8344)**
- Extended transfer wait time: In the timetable-based assignment there is an additional option which prevents overwriting of the extended transfer wait time with special walk times at stops. **(12668)**
- Improved cancellation behavior: Cancellation of PuT assignment is much quicker now, the user receives immediate response. **(11477)**
- Stop area skims: Most of the PuT skims available can now be computed as skim matrices based on stop areas using the procedure 'Calculate stop area skim matrix'. **(10357)**
- Timetable-based Assignment: Dominance for equivalent connections can optionally be deactivated. **(12842)**
- Timetable-based assignment: The timetable-based PuT assignment can now also assign demand with arrival time based time series. For this definition a new attribut 'Time reference' has been added to the demand description. A time duration for the pre-assignment period can be defined in the parameters of the assignment. **(12632)**

PuT Operating Indicators

- Projection of user-defined attributes: In addition to attributes of vehicle sections, also userdefined attributes of vehicle journey items can now be extrapolated within the line hierarchy and for territories. **(12652)**
- Spatial PuT Analysis: A new procedure for the spatial analysis of public transport data has been implemented. This allows numerical attributes of vehicle journey items to be apportioned to vehicle sections. Using the new list 'Line route item-PuT-detail' several evaluations of combinations of attributes of the line route items and attributes of vehicle sections are possible. **(12653)**

Scenario Management

- Calculation of scenario indicators: Scenario indicators can now be calculated later and independent of the calculation of the scenarios. **(11105)**
- Multi-user mode: Several users can work at a project at the same time if a project data base managed with SQL Server is used. Objects of the project are locked, if they are edited or used for the calculation by one user. Then they cannot be accessed by another user. **(12456)**
- Surfaces will not be normalized automatically when loading modifications. **(13819)**
- The file extension .vpdbx is now automatically linked to Visum, i.e. double click on a .vpdbx file opens Visum. **(13543)**

Scenariomanagement

- Project settings: It is possible to additionally save attributes with default values in the modifications. **(13688)**

Schematic line diagram

- Centered label: The label is now also suppressed if the value of a numeric attribute (directed and undirected) is zero. **(13714)**
- Graphic display of headway and line: The settings for the classified display of edge courses have been simplified. The settings can now be defined in one dialog for all classes. **(12662)**
- Interspace between transfer node and labels: For labeling of edge courses the inserted gap value for specified classes is used (new attribute DistFromTransferNode). **(12669)**
- Marking: The marking of edges and slots in the schematic line diagram is now synchronized with the underlying vehicle journey (instead of the line routes as before) **(13197)**
- New attributes for edge courses: The maximum headway (directed and undirected) determines the maximum duration between two successive departures of vehicle journeys on the edge course. **(13689)**
- The conventional left-hand traffic display can be generated because of the possibility to define the distance between departure and arrival labels on the one hand and the distance between these labels and the transfer node on the other hand (see 12669). **(12944)**

Timetable Editor

- Deletion of vehicle journey in timetable editor: The dialog only contains the options 'Yes' and 'No'. **(11963)**
- Editing of individual vehicle journeys: The run and dwell times and the course of one or several vehicle journeys can now be edited independent of their line route course and time profile. If required, the vehicle journeys are relocated to automatically generated copies of the time profiles and line routes. **(12667)**
- Recalculation of the sequence of stop events: The calculation of the sequence of stop events can now be cancelled. **(12226)**
- Compute service trip patterns: The calculation of service trip patterns now directly alters the attribute 'Service trip pattern number' of the vehicle journey, instead of only affecting the timetable editor. The display mode "Regular service" is therefore now realized as a grouping of the vehicle journeys based on this attribute. **(13199)**
- Line blocking view: The line blocking view is now a separate window which can bedocked independently of the timetable editor. **(13590)**
- Opening an infrastructure view from the schematic line diagram: Based on a marking of edges in the schematic line diagram, the graphical timetable can now be opened in a view suited for analysing the infrastructure (links) used by the vehicle journey covered by these edges. **(11447)**
- Shift vehicle journeys to a different line: When shifting vehicle journeys to a different line it is possible to aggregate line routes if the target line contains line routes that are compatible to the line route of the shifted vehicle journey. **(12660)**
- Stop sequence: The stop sequence consisting of stops or stop points can now be defined by the user. **(12939)**
- The former Timetable editor has been divided into three separate views 'Timetable (tabular)', 'Timetable (graphical)' and 'Line block editor'. These views can be used independently. New tool windows for selecting and editing objects have been introduced. Furthermore, the functionality to synchronize different views has been extended to the views of the timetable editor. **(12941)**
- The timetable editor has been completely redesigned. **(12825)**
- User preferences: The settings for the font in the tabular timetable and the orientation of the grafical timetable are now adapted on a separate page in the user preferences. **(13196)**

VISUM Files

- Export of floating point numbers: In the network settings the default of the option for the export of floating point numbers in network, demand and model transfer files has been set to 'Always output with maximum precision'. This option does not anymore affect files in XML Format. In XML files parameters are always written with maximum precision. **(13571)**
- Procedure 'Calculate service trip patterns': The procedure parameters can now be loaded/saved to/from XML-files. A new COM-interface is provided for manipulating these parameters. **(3872)**
- Valid Days: The attribute "System-generated" of valid days is no longer a mandatory attribute. Old files (e.g. *.net-files) with this attribute can still be opened with Visum. Files written with PTV Visum 14 will no longer include this attribute. **(13436)**
- Automatic reloading of external matrices: Matrices are always read from the version file, i.e. matrix values are not replaced by reloading external matrices automatically. This also applies to version files which are saved with VISUM 10.0 and older. **(13213)**
- Reading demand files: When reading external matrices messages of the same cause can now be skipped. **(13562)**
- Vistro Import: The import of vistro files has been improved. When importing vistro files with information about trip generation and trip distribution a procedure sequence is generated which automatically generates paths from assignment results. The required demand matrices for removed and added demand are also generated during the import. **(13580)**

Breaking Changes

Add-Ins

- VisumPy: Redundant (internal) functions for matrix access have been deleted. Please adapt your scripts if nescessary. **(13607)**

COM

- Extension of shortest path search for PuT: The extension periods can now be accessed via the COM interface. The default value for the extension periods is 86400 and therefore differs from the previous value which depended on the analysis period. **(13429)**
- Filtering in Path lists: The enumeration routeFilter_filterFromZoneFilter of routeFilterT is now always active, i.e. is also effective in combination with other members of routeFilterT enumeration. If no origin zone is given, the origin zone filter does not take effect. **(13710)**
- MapMatcher: The IMapMatcher-object now gets initialized on creation and does no longer require an explicit call of the Initialize()-method. The method has therefore been removed. All changes to nodes and links of the network are now automatically reflected in the mapmatching process. **(12177)**
- MapMatcher: The default matching algorithm of the MapMatcher has been changed from 'Incremental' to 'Global'. You can reproduce the old behaviour by setting the attribute 'Algorithm' of the IMapMatchinParameter-object to '0'. **(13150)**
- MapMatcher: The evaluation of detours of an edge has been modified. The value used for the evaluation is calculated using the formula (TypicalCostPer1000Meters / 1000) * (direct distance of the match points) / (cost of the edge). For that reason the method 'EstimateTypicalCostPer1000Meters' of the IMapMatchingParameters has been added. **(13750)**
- Refactoring and Speedup of GetNearestLink / GetNearestNode: The methods Visum.Net.GetNearestLink and Visum.Net.GetNearestNode have been moved from Visum.Net to the IMapMatcher-object. Both methods have been refactored and now return the results as output objects with properties providing the details, instead of using multiple output arguments which were difficult to handle by scripting languages. The old methods will be removed in one of the next releases and should no longer be used. **(3636)**
- The obsolete COM object IPuTOpIndAdditionalAttrPara has been removed. **(13246)**
- Timetable editor: The COM interface for the timetable editor has been changed as a consequence of the redesign. Some of the methods have been removed, others have a different function. **(13151)**

Data Model

- Read additonally POI to X tables: When reading POI to X tables the new number of the POI is now taken into account. **(12999)**
- Specific transfer walk times: Specific walk times can now be defined for pairs of the combination line and direction. The change has direct effects in lists and when saving network files (*.net) with active objects only. **(12651)**
- Network settings - turn types: Turn types are only set according to the settings for turn types when new turns are created. This is the case if links are added or split. Turn types of other turns at the affected node are not changed. Also, changes to other network objects, e.g. attributes of links, do not trigger an automatic recalculation of the typ. **(12408)**

Demand procedures

- Estimate gravitation parameters: If the option 'Preset class limits and shares' is used, it can be defined to which interval the class limits belong. If the option 'From interval file' is used, the settings for the interval type will be ignored. In contrast to the previous interpretation interval limit for .att files are now interpreted as]a,b]. **(11903)**

Graphical procedures

- PrT shortest path search: It could occur that the results of the shortest path search were implausible, if the length had been used as search criterion. This error has been fixed. **(12478)**

Network Editor

- Right-click logic in network editor: When an object is right-clicked, it opens not any longer the context menu of the object selected previously, but the selection switches to the new object and opens directly its context menu. **(12510)**
- Aggregation of line routes and time profiles: The default settings for the aggregation of line routes and time profiles have been adjusted. Notably, the default value for the 'Minimal route course share' has been set to 50%. **(13648)**

PrT Assignment

- Equilibrium assignment: It could happen that some of the route impedances are not updated if the network balancing process had been terminated by the maximum nunber of iterations. This error has been fixed. **(13214)**
- General settings for the ICA calculation: The setting 'tCur update' has been removed. For the options 'Manually' and 'After assignment' workarounds can be applied. The option 'During assignment' is removed without substitution. The option 'Before and during assignment' has been adjusted as follows: If the assignment uses the current assignment result as initial solution, the update of tCur is based on the results of the existing assignment, otherwise the assignment result is initialised for the corresponding demand segments and then tCur is updated. The option does not apply in Assignment with ICA and dynamic assignments. **(13326)**
- ICA calculation for roundabouts (HCM): If for a leg a bypass is defined, the attribute 'Bypass Control' on the source leg is used to determine whether the bypass is yielding or non-yielding. The lane capacity will be set to 100000, the delay will be 0 if the attribute value for ‘Bypass Control’ is 'Without' or 'Target lane'. The values are calculated using Equations 21-6 and 21-7 of the HCM if the value is 'Yield right of way' or 'Stop'. The definition of lanes and lane turns will have no effect on the ICA calculation. **(13757)**
- ICA calculation for roundabouts (HCM): The dependency of the values A and B in the roundabout calculation has been changed. The value A will be calculated according to Chapter 33 of the HCM2010 if and only if the overwrite flag for follow-up time is set. For this Equation 21-22 is used. Otherwise the value A is determined according to the first part of Chapter 21 of the HCM2010. The calculation method for B has not been changed directly. If the overwrite flag for critical headway is set, B is using the follow-up headway as defined in Chapter 33 (unless the overwrite flag is set for follow-up headway as well). **(13756)**
- ICA, Kimber: The turn capacity for turns of roundabouts which are calculated using the Kimber method is set to the approach capacity. The previous calculation used the turn volumes of an approach to calculate a weigthed capacity value. **(13540)**

PuT Assignment

- Timetable-based assignment: Some instabilities in the results were possible, if the network contained identical vehicle journeys (same time profile and same departure time). This error has been fixed. **(13047)**

Scenario management

- Surfaces will not be normalized automatically when loading modifications. **(13819)**

TFlowFuzzy

- Classes and shares for the distribution: If the option 'From interval file' is used, the settings for the interval type will now be ignored and the interpretation of the class limits depend on the file type, i.e. for .cod files limits are interpreted as [a,b[and for .att files as]a,b]. **(13725)**

Timetable editor

- Shift vehicle journeys to a different line: When shifting vehicle journeys to a different line it is possible to aggregate line routes if the target line contains line routes that are compatible to the line route of the shifted vehicle journey. The COM method IVehicleJourney.ChangeLineOfVehicleJourney includes an additional parameter which allows the aggregation with the first possible line route of the target line. **(12660)**

VISUM Files

- Export of floating point numbers: In the network settings the default of the option for the export of floating point numbers in network, demand and model transfer files has been set to 'Always output with maximum precision'. This option does not anymore affect files in XML Format. In XML files parameters are always written with maximum precision to avoid unintentional data loss. **(13571)**
- Automatic reloading of external matrices: Matrices are always read from the version file, i.e. matrix values are not replaced by reloading external matrices automatically. This also applies to version files which are saved with VISUM 10.0 and older. **(13213)**
- Defaultvalue for numerical UDA: If the attribute 'Defaultvalue' is missing in the table User-defined attributes of a .net file, the values remain empty when reading this .net file. **(13801)**