

New Features

- Model Collaborator – not only provides modeling teams the ability to independently work on different sections of a global model and bring the individual models together to be simulated, but also provides individual model builders a more capable model merge.
- New Shift Editor – Rewritten in .NET, you can quickly define your shifts and breaks in an easier to use interface.
- New Array use – Arrays can now be used to initialize the same ProModel fields as Macros. You can initialize Location capacity or Resource units with an Array! The key is to make sure the Array data is imported from an XLS file or a database.
- Enhanced LOAD statement – Now has a PERM option that causes the load to act like a JOIN. Entities can be permanently loaded (joined) onto a base entity. This extends joining capability, through the LOAD statement which already had great capability with the IFF <condition> and IN <time> options.
- New Status Light state – the Waiting state now shows as yellow for single capacity locations. Previously it would show blue, the same as Empty/Idle.
- More preemption, more often – more preemption checks have been implemented. In particular, in situations where a preemptor is initially denied in its attempt to preempt because the preemptee is in a non-preemptable state. Once the preemptee gets into a preemptable state, it should now check for a preemptor and be preempted in more situations.
- Mouse wheel and scrolling tables – the mouse wheel will now scroll your tables! Also, when grabbing the scroll bar to quickly move to different records (i.e. rows), the table will be dynamically refreshed showing exactly which record you are on.
- New Check for Updates – the automatic check for updates utility has been replaced with our latest .NET version so it is compatible with Windows Vista.
- Excel 2007 files (.XLSX) are now supported.
- EMF graphics supported – Graphic files of type EMF (Enhanced Meta File) can be imported into Background Graphics and the Graphic Editor.
- When importing graphics into ProModel, an “All Image Files” filter was added so that all supported graphic types (bmp, emf, gif, pcx, wmf) could be seen when choosing a file to import.
- The graphic library buttons and graphics toolbar have been updated to the Windows XP/Vista look and feel.
- Toolbar icons have been added to the menus in Windows Vista for better visual association between menu and toolbar items.
- In the First Time dialog box in the Arrivals table, the arrival time text box and Edit Arrival Time button have been swapped for ease of use.
- The LAN installation has been updated to contain the latest HASP drivers and License Manager.
- The DISPLAY statement in the Logic Builder now automatically adds quotation marks.
- The last Entity selected in the Tools window is persisted before exiting the Processing or Arrivals module. Now, when returning to one of these modules, the last Entity selected remains highlighted.

Enhancements

- Simulation engine optimization – the simulation engine has been optimized to run models faster. Results will vary depending upon the model, however in one benchmark test the model increased in speed by over 300%.
- A created entity (from the CREATE statement) that obtains a resource in Move Logic through a GET statement was incorrectly setting the state of a single capacity location to Idle, if the state of the location was Waiting at the time the created entity exited the location.
- In MedModel when opening 3DR, a database conversion error was thrown that said, “File Conversion Error in ‘Getting Entity Activity Data’ section of the file: <filename>.rdb. Please contact technical support for assistance.” This was due to an error not being caught where an entity, defined to have no stats collected, was renamed as another entity that was defined to collect stats.
- A compiler “Invalid or incomplete expression” error with context of “Resource Quantity: Line 0” was thrown after manually changing the units of a resource and then clicking the Add resource button to add a resource to the layout.
- If a Setup downtime required the use of a resource and that resource was preempted, the time the location spent waiting for the resource to return was counted as Operation instead of Waiting.
- The time an entity spends waiting for a Setup downtime to complete was not being reported as %Waiting.
- Implicitly split entities (using the Quantity field in the Routing dialog) with more than one routing record in the routing block were causing the location’s blocked time to be reported incorrectly.
- At a single capacity location, if multiple entities were unloaded or ungrouped (thus temporarily allowing additional capacity at a single capacity location), the location’s state statistics were incorrectly collected if the entities could be routed to more than one destination location.
- State Values time series plot was not showing the correct state of a location, if a resource was preempted away from the location in order to be used during another resource’s downtime.
- If a dynamic resource was being used by another resource during its downtime, the Trace would incorrectly state that the resource being used “goes down at the current position” when it should say that it “is already available at this location”.
- Entity statistics were not always being collected as %Waiting when an entity was in a preempted state.
- The right-click menu would not appear in the Graphic Editor like it does when right-clicking on graphics in the Background Graphics module.

- The Build menu would become disabled after editing a model, saving the model with a different name using Save As, simulating, and then re-opening the original model.
- “Implicit Wait” and “Implicit Move For” warnings would appear and then WAIT and MOVE FOR statements would automatically be added during compilation to logic that contained errors.
- The RAND function was sometimes returning the upper limit value and never a zero which is contrary to the documentation. For example, if RAND(10) was specified, a 10 would be returned which is not correct.
- A resource moving to be used by another resource during its downtime, was having its move time counted towards Travel to Park statistics rather than Travel to Use.
- Imported background graphics disappear if the graphic is moved to the top left corner of the layout.
- The simulation would terminate without warning or error if a USE statement was found after a MOVE statement in Move Logic. An error message explaining that a “USE statement is not allowed after the MOVE statement” now appears.
- The Logic Builder was not allowing a paste of a “Move With OwnedResource()” statement without first providing an index number specifying a resource.
- The Arrays table Disable and Persist fields could not be toggled/set by using the space bar.
- The conveyor Speed and Length fields were limited and now can handle up to 512 characters.
- When changing Views or zooming while in the Locations module, the locations would scale appropriately in size, but the background would not. Similar behavior occurred in other modules.
- When right-clicking in a Logic Window, the Logic Builder would appear rather than a menu with Cut, Copy, Paste, Select All, etc. choices.
- When compiling logic, the Logic Window would scroll to the top line of the logic rather than remain at the line of logic the cursor was at beforehand.
- The Tank_UpdateStats subroutine was in some cases not collecting the state statistics correctly.
- The Tank_DoOperation subroutine was ignoring any downtimes defined for the tank location.
- The incorrect graphic name would appear in the mouse tooltip when hovering over the buttons of graphic library icons.
- A crash would occur when importing GIF files that were created in PowerPoint. Now an error message is displayed explaining that GIF files with transparency are not currently supported.
- Changing the entity graphic in Arrival Logic using the GRAPHIC statement had no effect during simulation until the entity moved to the next location.
- If multiple entities were attempting to preempt other entities (and switch them to their preemption logic) at a multi-capacity location and the entities were in a non-preemptive state, only the first entity would get switched to its preemption logic (once it got into a preemptive state). The other entities would ignore their preemptive requests.
- Entities were not shown animating on their routing path if a MOVE FOR statement was included in a subroutine and that subroutine was called from Move Logic.
- A crash would occur for a model with many variable counter graphics when attempting to pan the layout during the model translation part of simulation.
- A location’s state was not properly being counted as Waiting when an entity resumed processing (after having been preempted) and was waiting to reclaim its resource (that was automatically freed due to the preemption).
- The LocState function was returning the location’s state as Empty/Idle when it was really Waiting.
- The Quantity field in the Arrival Qty dialog (where Arrival Cycles can be specified) in the Arrivals table, only allowed 17 characters to be entered.
- An error “Internal Error: Cannot find an available location unit” occurred when an entity arrives at a multi-unit location after having preempted an entity that attempted to resume processing after having been preempted by previous entity.
- An entity was incorrectly routing to one of its three possible route destinations when that route became available. The entity should have remained and taken the route to the destination that it had already preempted after the entity it preempted finished executing its preemption logic.
- Having a GET or USE statement in preemption logic caused a crash.
- When an entity in operation at a location was preempted by another entity, the time spent in operation by the preempting entity was being logged as Empty/Idle instead of in Operation for a Time Plot State Values chart.
- A “None of the ROUTE statements were encountered in this execution pass” error occurred when an entity attempted to move to its destination location after having been preempted and executed its preemption logic.
- A Location’s state for the Time Plot State Values chart was not being properly logged as Waiting.
- Some entities were executing their post move logic before they had finished moving to the end of an accumulating conveyor. This was more likely to occur if a previous entity had been blocked for a short period of time at the end of the conveyor but long enough for the next entity to stop moving and queue up behind it.
- Some entities were loading onto the front of an accumulating conveyor before there was actual space to do so. In some situations, the animation revealed this. There was an error in the internal calculation versus graphical representation of the load zone space.
- An “Animate3.cpp” error occurred after zooming or changing Views during a simulation run where the model had many Variable counter graphics.
- The application might have crashed during a simulation where a Crane was captured by an entity and the Crane was already at the same location the entity.
- On Windows Vista, ProModel shortcuts were not being installed correctly into the ProModel Solutions\ProModel directory.
- DTDELAY() function used in shift or break logic was incorrectly giving an ‘improper usage’ error.
- Location Information for ALL locations was not showing location states as Down when Called downtimes were initiated by the DOWN statement.
- The application locked up when compiling logic in any Logic window where its text exceeded ~64 KB in size.
- The Edit menu was being enabled after simulating a model even though no tables were open. Accessing the menu caused the application to abruptly close.
- The incorrect array record was being updated when selecting the import or export file.

- Executing a CREATE TAKE statement in Operation Logic followed by a MOVE WITH statement using OWNEDRESOURCE() in Move Logic would cause a crash if the resource involved was a crane.
- A shift file consisting of seven 24-hr shifts (with no breaks) was causing the application to either crash or a resource assigned to the shift to take random downtimes.
- The RESOURCEUNIT() function was not properly working for the first resource listed in the Resource table.
- If a downtime at a multi-capacity location preempted a processing entity, switching it to its preemption logic, once the entity exited the location the downtime would not occur.
- The application crashed in a special circumstance when a location downtime attempted to take a location down. This only occurred after a first preemptive downtime completed but had been initially delayed due to an entity, which had captured the location capacity, was traveling to the location. Once the entity arrived, it was properly switched to its preemption logic and then exited the location allowing the first downtime to occur. Once this downtime completed, the location would appear to come back online. However, when the second downtime attempted to take the location down, the application would crash.
- The application crashed when an entity would exit a location it had incorrectly preempted and routed to. Having two destinations to choose from, the entity should have waited and routed to the first destination it had preempted and had switched the occupying entity to its preemption logic. However, while it waited for the preempted entity to complete its preemption logic, the entity incorrectly preempted an entity at the second destination location (no preemption logic) and promptly routed to it.
- In a special situation involving multi-unit locations and the LOAD statement, an entity ultimately arrived at the correct location unit to be loaded, but upon leaving the previous location would execute the move logic pertaining to a different location unit.
- % Setup statistics were being collected as %Operation statistics if a Setup downtime was preempted by any Scheduled downtime (clock or shift). The %Setup that occurred before the preemption was being included as %Operation.
- When using a Macro to define the Empty or Full speed of a crane resource, the Hoist speed value was ignored and the Bridge speed was used for the Hoist speed instead.
- In a complex use of the USE statement where multiple resources were being requested, the incorrect resources were being captured.
- A translation error occurred when a macro was used in the Full and Empty Speed fields of a crane resource.
- In a special case where the same resource was preempted multiple times by different accumulating requests, the resource was captured by an entity that required an additional resource, but the entity would incorrectly proceed to execute its logic without acquiring the other resource.
- If a resource was transporting an entity to a location when a preemptive downtime for the resource occurred, the resource would not be preempted and go down when it arrived at the destination location but would have to wait until the entity freed the resource.
- A compiler error now occurs if a time value is specified in a MOVE WITH <res> FOR <time> statement and the resource being used is a dynamic resource. "FOR" only applies to static resources.
- External files selected by double-clicking the filename in the Open File dialog, could inadvertently save the file to the wrong External File record.
- In a special situation involving a GET and a USE statement, a "Wait completion event not found" error might have appeared.
- The compiler now correctly gives an error if a System function is found on the left side of any Boolean condition in a WAIT UNTIL statement (e.g. – "<system function> = 10" or "Var1 = 1 OR <system function> = 10"). They are only allowed on the right side of a Boolean condition in a WAIT UNTIL (e.g. – WAIT UNTIL var1 = <system function>).
- Resource State statistics were not adding up to %100 because the time designated as % Blocked in Travel was not properly being added to either %Travel to Use and/or %Travel to Park statistics.
- An "Internal error" would occur when a resource downtime was terminated (preempted) by another resource downtime while the original downtime was attempting to GET a resource.
- A Parameter button was showing up for the MOVE statement when the Logic Builder was opened from within Move Logic.
- Waiting statistics in the Entity Activity and State tables contained negative values if entities in the model were grouped (not renamed with AS option) and then later explicitly RENAMED while still grouped.
- A "Stack overflow pushing integer" error would occur if a MOVE WITH OWNEDRESOURCE() statement was executed without the entity actually owning any resources.

Includes 3DR version 2.0.11.93 containing the following Enhancements:

- When modifying chart items to add or remove series in an existing chart, the titles in the chart were being reset to their default formatting.
- When changing the decimal precision, the chart title was being reset to its default formatting.
- 3DR would throw an error and not load the statistics RDB file if the path and filename were longer than 126 characters.
- The Variables table was not showing up in 3DR when simulating a model having Tanks and there were no entity arrivals defined.
- Changing the name or "alias" for a chart series in a saved View was not persisting after the View was closed, reloaded and resaved.
- The starting point for bucketing values in a Counts Time Plot chart was based on the first data point in the series rather than zero (or the warmup end time).
- The line width and style of a series in an existing chart, if changed, was being reset when adding or removing series from the chart.
- Saved views were not persisting when first created (i.e. the IVD file was not generated) in the case where 3DR was left open and a simulation was started (which triggers 3DR to be automatically closed).
- The General table in the General Report was coming up blank if a saved view contained a Failed Arrivals table but the simulation generated no failed arrivals.
- Colors were incorrectly displayed in a State Values Time Plot chart containing series from multiple scenarios if the chart was part of a saved view and the model was re-simulated with one of the scenarios disabled.
- Downtime statistics were not being displayed for static resources listed before any dynamic resources in the Resource table in ProModel