



# **Pointwise V16.03 Release Notes**

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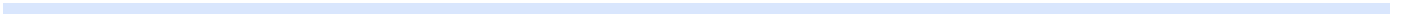
Arbitration shall take place in Dallas, Texas and be administered by the AAA's Dallas, Texas office.



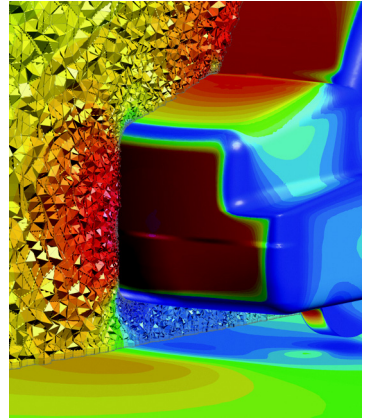
# Release Notes

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# Release Notes



## 1.2 Pointwise Release Notes

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### Overview

Pointwise is our new, next-generation of meshing software. It combines the meshing techniques developed over 23 years in Gridgen with a new graphical user interface that reduces the effort needed to create grids. Gridgen users will find that although the user interface is different, many of the underlying techniques are the same.

### Graphical User Interface

Pointwise's GUI has replaced Gridgen's nested menus with a flat menu-driven interface that includes customizable toolbars for access to frequently used commands.

Pointwise uses a noun-verb interaction model. The entities to be operated on (nouns) are first picked, and then the action to be performed on them (verb) is selected. After the action is completed the entities remain selected so that further commands can be applied immediately.

Selection in Pointwise follows the standard Left Mouse Button (LMB) convention with the additional abilities to use **Ctrl**+LMB for additive selection and **Shift**+LMB for range selection.

Selection in Pointwise is heterogeneous; different types of entities can be selected simultaneously (e.g. both connectors and domains). Some commands operate on multiple entity types and some only operate on the selected entities that are of a particular type. Selected entities that are not applicable for the command are ignored.

Image manipulation in Pointwise is done by mouse movement in conjunction with:

- Panning - **Ctrl** + Right Mouse button
- Zooming - Middle Mouse button
- Rotating - **Shift** + Right Mouse button

Over the next several months additional capabilities will be added to Pointwise, both its GUI and the core meshing technologies, until it is ready to replace Gridgen.

### New Features for V16.00

Although the GUI is the obvious new feature in Pointwise, several major new features have also been added. These new features include:

- Multi-level undo and redo with ability to revert to states stored in a history list. The number of undo levels is user configurable.
- Automatic assembly of connectors into domains. The selected connectors will be assembled into a domain or domains if possible.
- Automatic assembly of connectors, domains, or combinations of connectors and domains into blocks. The selected entities will be assembled into a block or blocks if possible.
- Support for 64-bit hardware.

Several other features in Pointwise are new relative to Gridgen.

- Support for VRML 2 files.
  - Simultaneous transformation of grid and database entities.
  - The ability to change the orientation of domains.
  - Naming for all entity types.
  - Improved CGNS support, including import.
  - Shell intersections.
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- DB curve drawing and connector drawing are now identical, including the ability to create multi-segment database curves.
- Native Mac/Intel port.

## New Features for V16.01

The following is a listing of the new features found in Pointwise V16.01:

- The ability to layer grid entities within the Layer Manager panel
- A new boundary condition has been added to the elliptic solver for blocks. A floating boundary condition can be applied to interfaces shared by blocks so that they are treated as internal grid lines when the solver is running.
- Anisotropic meshes from Gridgen V15.13 imported into Pointwise will now have all anisotropic tetrahedra recombined into prisms when exported to CGNS. The recombination includes both complete and incomplete layers of anisotropic tetrahedra.
- Export of VRML V2.0 files
- Import of UCD grid files
- Four new selection commands - Toggle Selection, Select Adjacent, Select All Adjacent, and Angle Limit.
- Rotational extrusion for domains and blocks.
- New versions of the extrusion tools for Normal, Translate, and Path extrusions
- A new version of the distribution tools
- The Orient command for database curves, surfaces, connectors, domains, and blocks.
- Linear and Orthogonal TFI Methods for domains in the grid solver.
- The Rotation Point for the Display window can now be set either by clicking in the Display window or by specifying an XYZ point.
- The ability to copy dimension, scaled distributions, or spacings from a string of subconnectors to another subconnector
- The Paste command now has an option for modifying the distribution of a pasted entity before saving it.
- Break points are available for use with connector distributions.
- Database curves, surfaces, and shell intersection curve joining
- The ability to create exact 180 degree circular curves
- The **Alt+RMB** accelerator to obtain a point's XYZ coordinates and the distance between it and the last point selected.
- Connectors may now be split at their control points.
- Shell surfaces can be intersected with each other.
- The ability to specify the bending angle within which an entity is considered adjacent using the *Angle Limit* command
- Connectors and database curves smoothing using C1 curve approximation with the Edit, Smooth command.

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- The ability to edit the slope of bezier curves in the Edit, Curve command
- The display of tangent lines to conics is shown whenever creating or modifying a conic curve.
- Boundary conditions are exported along with the grid for FV-UNS.
- A new command within the Attributes panel that allows you to quickly apply rainbow colors to the selected entities
- More feedback on entities highlighted in the List panel or Display window is shown in the Status bar.

### New Features for V16.02

The following is a listing of the new features found in Pointwise V16.02:

- Twenty-five mesh quality metrics can be computed and displayed using the Examine command. New capabilities relative to Gridgen include drag and drop cutting planes, interactive probing of individual cells, a movable and resizable color bar, and several new options for the graphical display. Automated mesh quality monitoring is available using Rules, a top-down means of gauging global mesh quality relative to user-defined limits.
  - Computationally two-dimensional blocks consisting entirely of domains can now be created, their axes oriented, CAE boundary conditions set, and CAE files exported.
  - Native interfaces to the following CFD solvers were added: OVERFLOW, GUST, TEAM, ADPAC, INCA V2, VSAERO, COMO, CFDShip-Iowa, CRUNCH, PHOENICS, DTNS, FANS, FALCON, FDNS/UNIC, Splitflow, CNSFV, NCC, NPARC, and TACOMA.
  - The Glyph2 Reference Manual and the Glyph2 command manual pages are now available for use. The Glyph2 Reference Manual is included in each Pointwise installation in the doc/ directory. The Glyph2 command manual pages can be found online at <http://www.pointwise.com/glyph2>.
  - Axis selection is now performed consistently and with a variety of choices for all commands that require an axis such as Revolve.
  - A fourth circle creation mode was added to Draw Curves. This new mode lets you create a circle from a point at the end of the arc, the circle center, and the angle to be swept by the arc.
  - Coons patch surfaces can now be created in the database. This surface type is very useful for filling small holes or covering missing features. Using an algorithm similar to Gridgen's, Coons patches are created simply by picking the edge curves around the perimeter of the area to be filled.
  - Fillet surfaces can now be created in the database. Known as polyconic surfaces in Gridgen, fillets are useful for smoothly blending intersecting geometry.
  - The ability to create point entities in the database has been added.
  - The ability to create linear sweep surfaces in the database has been added.
  - Unstructured domains can be created by diagonalizing the quads in a structured domain.
  - Rotating the image in the Display window with the keyboard or mouse automatically saves the so-called Dynamic View. The user can then quickly restore the dynamic view after recalling any of the 6 built-in or 6 user-defined views.
  - Unstructured domains can now be joined.
  - Least squares fitting of a connector's grid points is now available. When importing grids directly, this is a valuable feature to reducing a connector to a more easily editable shape.
  - The spline command (Fit in Gridgen) is now available for use in converting linear or bilinear database geometry into smooth cubics.
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- A new Mouse Style choice has been added to the Preferences command. Choosing Gridgen style makes the mouse buttons for panning, zooming, and rotating the image work just like Gridgen. You can also apply Gridgen's Left Pick option.
- The Solve command now lets you select a mix of entity types (domains and blocks, structured and unstructured). In this case, a panel will appear from which you choose which solver to run.
- Entering coordinate data now leaves the XYZ widget highlighted for ease in entering the next point.
- As part of a joint effort with Gridgen V15.13, Pointwise can be used to recover more prisms from an anisotropic tetrahedral mesh than Gridgen resulting in up to 40% fewer total cells in the mesh.
- A tolerance can be set for joining database entities.
- Commands that provide for modal selection now employ a 1-button interface rather than two separate buttons for starting and stopping the selection mode.
- **Shift+Ctrl**+MMB (middle mouse button) can be used to get a point's location or measure the distance between two points. This was available in V16.01 as **Alt**+RMB but there were key conflicts on non-Windows platforms. In order to make this change, we also changed the manner in which the zoom box worked. While pressing **Shift**+MMB, sweeping down performs a zoom-in and sweeping up performs a zoom-out.
- A native interface to the OpenFOAM CFD solver is now available.
- The status bar now indicates the difference between unconstrained and constrained spacing constraints when they are selected.
- The multigrid algorithm for the structured block solver now incorporates threads to spread the computations over multiple CPUs/cores on Windows computers, increasing the speed of the solver.
- Buttons for the unstructured solver's Refine and Decimate features are now available on the toolbar.
- A new selection preference has been added to the Preferences command. The default behavior for selection is for it to be exclusive; the mouse button selects the entity clicked on and unselects everything else. This behavior is modified by pressing **Ctrl** in addition to the mouse button so that selection is additive; the mouse button selects the entity clicked and does not change the selection status of anything else. The new preference lets you make the unmodified behavior of the mouse additive in the same manner that Gridgen worked.
- CAE solver interfaces for AcuSolve and USM3D now allow export of input files formatted specifically for these solvers. *Available in V16.02 R3 and later versions.*

### New Features for V16.03

The following is a list of the new features found in Pointwise V16.03:

- Pointwise 64-bit for Windows platforms is now available.
- The ability to add a break point at a specified X, Y, or Z location has been added to the Break Points tab of the Distribute command. This feature is useful for adding a clustering location to a connector of complex shape when only one coordinate value is known.
- Users can now add to Pointwise support for additional CAE solvers. This feature exploits a new plugin API through which users can define a new CAE solver and write the code for exporting its files. Plugins are automatically detected at run time and appear in the CAE menu along with all the built-in solvers. Currently, all grids are exported as unstructured data. Structured grid support will be added in a future version.
- The boundaries of database boundaries are now selectable for use in other commands, most notably the creation of Coons surfaces to fill holes in the database.
- The attributes panel has been renovated and simplified to make it more user-friendly. New icon buttons were added for displaying the fill and line styles. Visibility of connector grids points and db curve control points can be

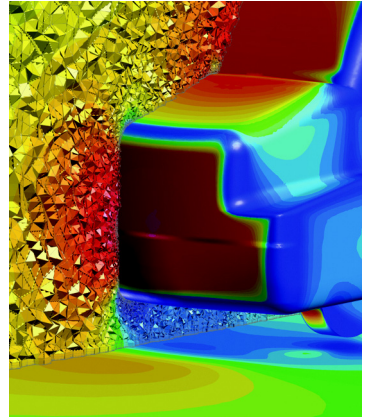
## 1.6 Pointwise Release Notes

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toggled on and off with icon buttons. Glyph commands have been added to handle the new display options and any previous entity attributes are mapped to the new display options.

- An Edge Length function is now available in the Examine command.
  - The Extract command is now available for interactive application to shell (faceted) database entities. Extract finds "hard" edges in the shell using a limit-angle and either splits the shell or creates a new line entity.
  - Empty log files are now available in the Licenses installation folder to make setting up the FLEXnet server easier for new users.
  - Database entities can be exported in IGES format.
  - Commands are now available in Glyph 2 for selecting entities for use in a script.
  - Support has been added to Pointwise for using Tk to create GUIs for Glyph scripts.
  - The User Manual, Tutorial Workbook, Installation Instructions, and Glyph Reference Manual can be opened in PDF format from the Help menu. Additionally, Pointwise's support web site and the Glyph Man Pages are can also be opened from Help.
  - Error and warning messages caused by problems reading and writing files now provide more useful feedback to the user.
  - The minimum surface grid spacing is now displayed in the Extrusion command's attributes panel as an aid in choosing an initial step size.
  - A list of your most recently used files (the MRU list) is maintained in the File menu for ease in re-opening or re-importing those files.
  - The Periodic command is now available for creation of slaved connectors or domains. For periodic pairs of connectors and domains, changes made to one entity in the pair will automatically be reflected in the other.
  - The Boundary Proximity and Surface Proximity functions are now available in the Examine command. These functions are used to measure gaps between adjacent surfaces and distances between two coincident surfaces.
  - Users can now easily push and pull one grid point at a time across break points in order to fine-tune their distribution of grid points on a connector.
  - The import, creation, modification, deletion, and export of Solid Models, Quilts, and Trim Surfaces are now supported in Pointwise.
  - Users now have the ability to create structured and unstructured domains on Solid Models and Quilts.
  - 3D mice, specifically the SpaceNavigator and SpaceExplorer devices from 3Dconnexion, are now supported as devices for image manipulation.
  - The Grid, Dimension command has been optimized for significant improvements in speed.
  - The ability to split a curve at a specified X, Y, or Z location is available in the Edit Split command for curves. This feature is useful for splitting a curve when only one coordinate value is known.
  - Pointwise now has a preference which allows the user to control whether or not surfaces will be automatically split during import based on slope discontinuity. The default behavior (no splitting) ensures that geometry model matches the CAD model while enabling splitting can avoid problems due to the fact that many algorithms assume continuous surfaces.
  - Grids may now be exported via a Structured CGNS (CFD General Notation System) CAE export option which can maintain the structured data nature of structured grid entities.
  - The CAE interface to the USM3D solver now tags cells as either viscous or inviscid.
  - A simplified version of Display Attributes has been implemented on the toolbar. Fill, Line, Color and Points attributes of the current selection can be immediately changed by clicking an icon in a toolbar menu.
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# Resolved Issues



## 2.2 Pointwise Release Notes

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### Pointwise V16.03 Release 1

The below listing is provided as a reference for issues that were fixed in Pointwise V16.03 Release 1:

- SPR 12574** - Copying a scaled distribution from one connector to another did not result in a scaled distribution on the modified connector.
- SPR 12564** - Opening a Pointwise V16.02 project file caused Pointwise to exit prematurely.
- SPR 12492** - Export to the CAE CFDSHIP-IOWA was resulting in ASCII, single precision files. The format was corrected to ASCII, double precision.
- SPR 12365** - Exporting a grid to Splitflow with more than 10 million nodes caused issues with invalid formatting in the export files.
- SPR 12342** - Importing a grid containing many self-connecting, or 360 degree, connectors caused negative Jacobians to appear within the associated blocks.
- SPR 12326** - Assembling a collection of domains into a block caused an exception in Pointwise.
- SPR 12312** - Exporting a grid to OpenFOAM caused Pointwise to exit prematurely.
- SPR 12292** - Importing a particular anisotropic mesh into Pointwise caused the unstructured blocks to be emptied.
- SPR 12290** - Merging all candidate connector pairs in the Grid, Merge command caused Pointwise to exit prematurely.
- SPR 12201** - Pointwise was exporting two types of little-used database entities improperly to Gridgen database composite files. The resulting files were unable to be imported into Gridgen.
- SPR 12199** - An extrusion from a set of domains that contained self-connecting, or 360 degree, connectors caused Pointwise to exit prematurely.
- SPR 12198** - A grid which had many self-connecting, or 360 degree, connectors failed to be imported properly into Pointwise.
- SPR 11960** - Pointwise was exporting ADPAC files as unformatted, double precision. The current format is binary, single precision.
- SPR 11280** - Mirroring a block in Pointwise was causing a change in the orientation of the block.

### Pointwise V16.02 Release 4

The below listing is provided as a reference for issues that were fixed in Pointwise V16.02 R4:

- SPR 12186** - The display of some database entities in a composite database file were not being displayed properly.
  - SPR 12079** - The "pw::Display resetView" command was not resetting the view to display the entire geometry/grid system when the rotation point was not centered in the geometry/grid.
  - SPR 12057** - After splitting a domain into three pieces, any operations applied to the resultant split domains cause an error to appear.
  - SPR 12054** - For a specific selection of domains, entering the Create, Extrude, Normal command caused an error message to appear about the assembly of structured faces.
  - SPR 12046** - Importing a particular unstructured block from Gridgen into Pointwise caused the interior cells of the block to be emptied.
  - SPR 12008** - Point locations in extruded blocks were changing slightly with multiple runs of the script created to produce the blocks. Logic was improved within the extrusion algorithm to resolve the issue.
  - SPR 12000** - After creating a block through hyperbolic extrusion, the block was emptied of points.
  - SPR 11941** - Joining two blocks caused negative volumes to appear in the resultant block.
  - SPR 11913** - Using the Domains on Database Entities command to create unstructured domains with the Connector Join option toggled on caused Pointwise to exit prematurely on a particular geometry.
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- SPR 11910** - Using the Domains on Database Entities command to create an unstructured domain on a cylindrical surface yielded no connectors nor a domain on the surface.
  - SPR 11909** - The distribution of some connectors within a particular file were corrupted when the file was reread into Pointwise.
  - SPR 11908** - The Grid, Merge, Node-Connector merging command was splitting a connector at a specific node then causing the split connectors to be merged back together.
  - SPR 11882** - Exporting a certain unstructured anisotropic mesh from Pointwise to CGNS caused Pointwise to exit prematurely.
  - SPR 11881** - Importing a certain unstructured anisotropic mesh into Pointwise caused one of the blocks release its volume cells.
  - SPR 11868** - When comparing the number of prisms recombined in Pointwise's CGNS export to those extracted within Gridgen for the same model, Pointwise was found to have the same number of prisms as Gridgen in several cases.
  - SPR 11837** - The distribution of Pointwise V16.02 R3 for Linux platforms was missing the ACUSIM/AcuSolve CAE plugin.
  - SPR 11828** - For a block with a bad interior point, export to CGNS produced errors and export to FLUENT caused Pointwise to exit prematurely.
  - SPR 11826** - AcuSolve was unable to import a grid file exported from Pointwise that contained degenerate cells along a singular axis.
  - SPR 11793** - Using the \$edge JoinConnectors command was causing the distributions of the subconnectors within the connectors being joined to reverse.
  - SPR 11759** - Automatic assembly of a structured block was failing when a pole domain was included in the selection.
  - SPR 11722** - Export to the OpenFOAM CAE was taking large amounts of memory compared to export for other CAE solvers. Performance of the OpenFOAM exporter was improved.
  - SPR 11716** - Import of an unsupported IGES entity caused Pointwise to exit prematurely on certain platforms.
  - SPR 11676** - Creating unstructured domains on database surfaces using the Domains on Database Entities command caused an assertion for a particular database file.
  - SPR 11668** - When loading a certain Pointwise project file, a link error was printed to the Messages window and only one entity was imported.
  - SPR 11527** - Running three domains that share an edge through the grid solver caused divergence if the shared edge was set to a Floating boundary condition.

### Pointwise V16.02 Release 3

The below listing is provided as a reference for issues that were fixed in Pointwise V16.02 R3:

- SPR 11689** - Changing the dimensions of a domain that was constrained to a database surface with a singularity caused issues with the domains TFI.
  - SPR 11684** - For a particular anisotropic grid, Pointwise was unable to extract prisms during CGNS export.
  - SPR 11655** - Exporting the transition duct tutorial file from Pointwise to Gridgen caused issues with domain connectors.
  - SPR 11624** - Importing a particular database file into Pointwise caused it to exit prematurely.
  - SPR 11601** - Exporting a particular database file to Gridgen caused Pointwise to exit prematurely.
  - SPR 11546** - Structured blocks created in an earlier version of Pointwise were being reported as left-handed in the Edit, Orient command even though they were right-handed.
  - SPR 11545** - Exporting a particular grid to CFD++ caused Pointwise to exit prematurely.
  - SPR 11511** - Exporting a particular grid to CGNS caused Pointwise to exit prematurely.
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## 2.4 Pointwise Release Notes

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**SPR 11456** - A block extrusion containing poles contained improper marching directions at the pole.

**SPR 11423** - Intersecting two shell entities was resulting in 0 intersection curves.

### Pointwise V16.02 Release 2

The below listing is provided as a reference for issues that were fixed in Pointwise V16.02 R2:

**SPR 11396** - Setting all block faces to a Floating boundary condition caused a grid to diverge when run through the grid solver.

**SPR 11327** - Changing the CAE solver after reloading a project file was preventing boundary condition physical types from being changed.

**SPR 11299** - A translational block extrusion was generating negative volumes and Jacobians erroneously.

**SPR 11242** - Pointwise's installer package was only placing the Pointwise shortcut icon in the Start, Programs folder of the user who installed it instead of all users.

**SPR 11232** - CGNS Export with anisotropic cell recombination enabled was failing for a specific grid.

**SPR 11172** - The positive skew Jacobian stop criteria for extrusion was working improperly for an extrusion face in which multiple domains met at a pole.

**SPR 11141** - Dimensioning a connector caused it to come off its prescribed database surface.

**SPR 10782** - Extruding domains hyperbolically was creating duplicate connectors and nodes in a grid.

**SPR 10765** - Connectors created automatically on a particular database surface were not being joined when the connector join option was toggled on.

**SPR 10105** - Importing a large Gridgen restart file into Pointwise never completed due to tolerancing issues within the file.

### Pointwise V16.02 Release 1

The below listing is provided as a reference for issues that were fixed in Pointwise V16.02 R1:

**SPR 11154** - Opening a file in Pointwise when a project was already in work failed to trigger the Append mode for adding the data to the existing workspace.

**SPR 11098** - Exporting a particular block to Fluent caused Pointwise to exit prematurely.

**SPR 11095** - Pointwise exited prematurely after joining two connectors.

**SPR 11071** - The grid solver was not releasing memory properly when a solved structured block was initialized.

**SPR 11031** - On a collection of database constrained domains, setting the floating boundary condition in the grid solver caused issues with domain quality.

**SPR 11015** - Exporting a project to Gridgen causing an internal error within Pointwise.

**SPR 11013** - Pointwise exited prematurely after importing a project file.

**SPR 10999** - Importing a particular domain into Pointwise corrupted part of the domain.

**SPR 10980** - For a particular Gridgen database file imported into Pointwise, the pcurve database entities were missing.

**SPR 10958** - For STAR-CD export, the Volume Condition ID was not being set properly.

**SPR 10900** - The Jacobian examination results for a single structured block differed between Pointwise and Gridgen.

**SPR 10896** - Splitting a connector caused its associated domain's initialization to change.

**SPR 10895** - Export of an unstructured block with boundary conditions to FV-UNS resulted in an output file missing the appropriate flags in front of the boundary condition names.

**SPR 10880** - Joining a particular set of connectors caused Pointwise to exit prematurely.

**SPR 10855** - Splitting a domain created in Gridgen caused corruption within the resulting domains.

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- SPR 10775** - Single and double precision ASCII PLOT3D export was writing identical files.
  - SPR 10739** - Pointwise was unable to import a particular PLOT3D file.
  - SPR 9982** - Initializing an unstructured block failed in Pointwise.
  - SPR 9385** - Pointwise performance for certain tasks was reported to be slower than Gridgen.

### Pointwise V16.01 Release 3

The below listing is provided as a reference for issues that were fixed in Pointwise V16.01 R3:

- SPR 10846** - The numbers appended to BC descriptions for ANSYS Fluent and ANSYS CFX export files were changing when slight modifications were made to the grid.
- SPR 10808** - Copying a database constrained connector resulted in a new connector with a database curve type.
- SPR 10794** - Unstructured mesh node merging resulted in a singular connector that was not removed automatically forming a highly skewed cell.
- SPR 10735** - Special connector topology caused the Float boundary condition in the structured block solver to fail with an error.
- SPR 10651** - When modifying the distribution of grid points along a connector in an extruded block, the shape of the connector changed.
- SPR 10529** - Splitting a database curve and then connector by picking the same database point failed in an exception.

### Pointwise V16.01 Release 2

The below listing is provided as a reference for issues that were fixed in Pointwise V16.01 R2:

- SPR 10526** - For a particular grid, export of a block to Cobalt failed.
- SPR 10506** - Using the floating boundary condition for the interior edges of two database constrained domains resulted in a poor grid when the grid solver was run.
- SPR 10437** - A structured mesh exported from V16.00 developed topology issues when imported into V16.01 R1.
- SPR 10403** - For a particular grid, export to Gridgen failed with an exception.
- SPR 10402** - A collection of database constrained extruded domains that were copied and pasted developed corruption in the copied versions.
- SPR 10341** - A set of grids were seen to lose their solver selection and their boundary conditions when exported to Gridgen from V16.01 R1.
- SPR 10321** - A fault in the way the shared nodes between connectors were being handled during extrusion was preventing the application of step suppression in the extrusion.
- SPR 10230** - Exporting a grid from Pointwise to Gridgen failed with an exception.

### Pointwise V16.01 Release 1

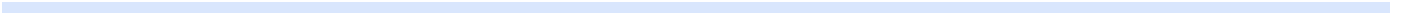
The below listing is provided as a reference for issues that were fixed in Pointwise V16.01 R1:

- SPR 10047** - Boundary and Volume Condition names set in Gridgen were not importing correctly into Pointwise.
  - SPR 9997** - Pointwise becomes unresponsive when using the Ctrl+C and Ctrl+V accelerators for a particular grid.
  - SPR 9995** - The Paste panel did not appear when using the Ctrl+A, Ctrl+X, Ctrl+V accelerators in combination for a set of blocks.
  - SPR 9962** - Translating a mixture of database and grid entities did not work properly for a particular project.
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## 2.6 Pointwise Release Notes

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- SPR 9900** - Changing the dimension of a particular structured block caused the block to empty.
  - SPR 9864** - Export of an empty block to Gridgen caused Pointwise to exit.
  - SPR 9863** - A Gridgen file was not imported properly into Pointwise.
  - SPR 9786** - A database consisting of trimmed surfaces could not be intersected with a plane.
  - SPR 9746** - A Gridgen file could not be imported into Pointwise due to an issue with importing the tolerances.
  - SPR 9736** - Export of a large grid to the CGNS CAE caused Pointwise to become unresponsive.
  - SPR 9691** - Importing a set of Gridgen native database and grid files into Pointwise, then re-exporting them to Gridgen resulted in Pointwise becoming unresponsive.
  - SPR 9644** - The import of a VRML file caused an uncaught exception in Pointwise.
  - SPR 9642** - Creating domains on shell database entities resulted in poorly created domains.
  - SPR 9637** - Adding domains to a block face in Create, Assemble Special caused Pointwise to become unresponsive.
  - SPR 9435** - The import of a Gridgen .dba file caused Pointwise to exit due to faulty trimmed surfaces.
  - SPR 9410** - The import of a Plot3D file failed due to the presence of a pole in the topology.
  - SPR 9383** - Connectors imported from a particular Gridgen restart file were not the correct shape.
  - SPR 9381** - Export of database entities to a Gridgen composite database file caused displacement of some entities.
  - SPR 9359** - Ansys CFX export was missing options for binary and single precision.
  - SPR 9349** - The solver and boundary conditions set in Gridgen restart files was not being imported into Pointwise.
  - SPR 9336** - Import of a Gridgen V15.06 restart file produced error messages as well as uncaught exceptions.
  - SPR 9316** - Export to Gridgen was causing an uncaught exception for a particular database and grid.
  - SPR 9301** - The Ctrl+D accelerator was unavailable in the Set BC panel.
  - SPR 9237** - Running the grid solver was causing points on a domain to pull off its associated database.
  - SPR 9231** - Exporting a grid to Gridgen from Pointwise caused some of the grids connectors to lose their database associativity.
  - SPR 9214** - Export of a certain grid to FV-UNS resulted in an incorrectly formatted FV-UNS file.
  - SPR 9199** - A problem was encountered with the tolerances used in hyperbolic extrusion of a block with an extremely small initial step size.
  - SPR 9197** - Exporting a Pointwise file to Gridgen caused an uncaught exception error.
  - SPR 9126** - A Gridgen restart file exported from Gridgen failed to import into Pointwise with its associated database composite file.
  - SPR 9108** - In the Quick Installation Guide, instructions for setting up a machine to access a distant license server were missing.
  - SPR 8770** - During import of a segment file, a problematic segment caused Pointwise to fail to import any segment from the file.
  - SPR 7771** - The error message that was appearing for expired license files needed clarification.
  - SPR 7676** - When performing prism extrusion for a particular grid, the resulting extrusion proceeded too slowly.
  - SPR 6910** - When dragging some toolbars around the interface, other toolbars were not updating correctly.
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## 2.8 Pointwise Release Notes

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