



Pointwise V16.04R5 Release Notes

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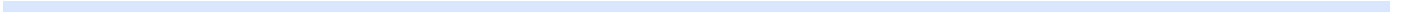
Arbitration shall take place in Dallas, Texas and be administered by the AAA's Dallas, Texas office.



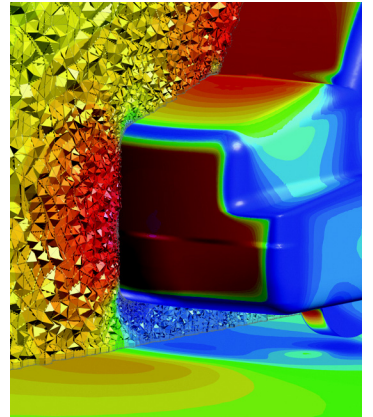
Release Notes

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1.2 Pointwise Release Notes

Overview

Pointwise is our new, next-generation of meshing software. It combines the meshing techniques developed over 26 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

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 V16.04

The installer for V16.04 has been revised slightly for Windows platforms to place the software in the Start menu for all users rather than only the installing user. This may have the affect of producing two entries for Pointwise in your Start menu if you elect to retain previous versions when installing V16.04. To avoid this first uninstall all previous versions of Pointwise prior to installing V16.04.

The following is a list of the new features found in Pointwise V16.04:

- Pointwise is now supported for Window 7 32-bit and 64-bit.
 - Pointwise now supports all the CAE solvers that Gridgen supports including GASP, INCA, NSAERO, Exodus II, TASCflow, Tecplot, WIND, and WIND-US.
 - Users now have the capability to sort the block order in the list either manually or by name, size, or type. Just like the Sort feature in Gridgen, the user can now control the order blocks are exported to CAE or grid file format. The Sort command is contained in the File pull-down menu and provides a GUI panel to enable the sort operations.
 - The interface to STAR-CCM+ has been updated and now exports a .ccm file compatible with their latest release.
 - Notes (annotation entities) can now be imported from CAD files and created in Pointwise.
 - New capabilities have been added to save (in HTML or plain text), copy, and clear the contents of the Message window. All three capabilities are available by right-clicking in the Message window. Also, a checkbox for clearing the Message window was added to the New command's Restart option.
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- Pointwise now remembers two separate file paths: one for file import, export, open, and save and a second for executing and journaling scripts.
 - A shortcut button to Rainbow Colors has been added to the View toolbar so you can apply it to multiple entities without opening the Attributes panel. Also, a new command for applying Rainbow colors was added to the Glyph scripting language.
 - Problematic cells that prevent the tet mesher from generating a mesh are now highlighted in order to provide feedback that can direct the user's corrective actions.
 - Examination of cell Jacobians was enhanced through the addition of user options to display and count cells of various Jacobian types (for example, negative, negative skew). A similar change was made to examination of Database Associativity with counts of points on and off the database.
 - Interblock connections can now be overwritten with a flow solver boundary condition.
 - Pointwise now has a native 64-bit (x86) Mac OS X build in support of 10.6 "Snow Leopard".
 - A list of your most recently executed (MRE) scripts appears at the bottom of the Script menu so you can easily recall and re-execute them.
 - CAE plugins have been extended to support structured grid data and file types. Also, a CAE interface to CFL3D has been added.
 - Using Print to File, you can capture the Display window screen and save it to a PNG, BMP, or TIFF file. Optional capabilities can be used to save high-resolution images that are better suited for print publication.
 - Users may split shell (faceted) entities in Pointwise via constant X,Y, or Z locations or via an existing database plane.
 - The Grid, T-Rex command can now be used to create anisotropic unstructured domains within Pointwise. This feature implementation is identical to that found in Gridgen.
 - A new connector distribution has been implemented to support the Inheritance functionality added to T-Rex. The distribution uses a geometric growth function where initial Δs , growth rate, number of layers and/or total layer height are specified. Both one-sided and two-side growth distributions are possible.
 - The Edit, Tweak command is now available to move individual grid points in surface and volume meshes.
 - Pointwise can import surface meshes from a UGRID file. Quad cells are diagonalized on import to create triangles.
 - A second coordinate axis can be displayed at the origin of the X, Y, Z coordinate system.
 - New spacing constraint, domain, and block options have been added to the Select, Mask panel.

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
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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 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.
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- 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.
 - The import of UGRID surface triangles is now supported in Pointwise.

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.
 - 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.
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- 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 V16.01

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.
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- 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.
 - 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 V16.00

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.

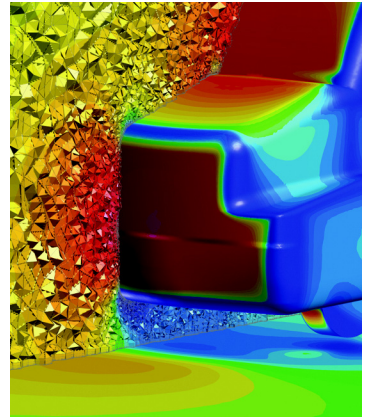
Several other features in Pointwise are new relative to Gridgen.

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



2.2 Pointwise Release Notes

Pointwise V16.04 Release 5

The below listing is provided as a reference for issues that were fixed in Pointwise V16.04 Release 5:

- SPR 15421** - STAR-CCM+ export from 32-Bit Pointwise build was failing in STAR-CCM+.
- SPR 15413** - Structured solver setting were being discarded after blocks were joined.
- SPR 15401** - Intersection curves with all options on resulted in a premature exit.
- SPR 15385** - 2D Fluent export was failing.
- SPR 15374** - A problem with the File, Sort command produced an empty table and later resulted in a premature exit.
- SPR 15368** - A model assembly error was causing a journaled script to crash.
- SPR 15327** - When selecting a subset of the total connectors in a grid in the Grid, Distribute command, the Select, Toggle Selection button did not unselect the originally selected connectors.
- SPR 15321** - Joining three unstructured blocks caused negative volume cells to be created in the resulting block.
- SPR 15264** - Using the Ctrl+A hotkey to select all unstructured domains in the Assemble Special Block command was not allowing the selection of diagonalized structured domains where the original structured domains were set to hidden.
- SPR 15249** - (2nd) For a structured domain with two pole connectors in which each pole is 1 edge, using the Create, Diagonalize command created an unviable unstructured domain.
- SPR 15249** - (1st) Pointwise was unable to diagonalize a structured domain when the last edge of the domain was a pole.
- SPR 15221** - Splitting a structured domain resulted in skewed distribution at the split location.
- SPR 15184** - Pointwise was unable to export an unstructured block to CRUNCH.
- SPR 15176** - Importing a NASTRAN file was unsuccessful because the grid contained unsupported entities. In addition to supporting CTRIA3 and CQUAD4 elements, Pointwise now supports import of CTRIAR and CQUADR elements.
- SPR 15160** - Importing a Pointwise file failed because of a corrupt connector in the project.
- SPR 15158** - Trimming database surfaces against each other using the Trim By Surfaces command caused some of the associated connectors to be thrown off the grid.
- SPR 15121** - Initializing an unstructured block in the Grid, Solve command produced a vague error in the Messages window.
- SPR 15112** - NASTRAN files with a large file format failed to import.
- SPR 14962** - Pointwise was unable to export an unstructured 2D grid to STAR-CCM+.
- SPR 14943** - Importing a Gridgen file caused a prism block to be deleted in Pointwise.
- SPR 14052** - Refining a domain with T-Rex cells caused Pointwise to exit prematurely.
- SPR 13969** - Exporting a shell to Gridgen produced a single triangle facet when the file was imported into Gridgen.
- SPR 13964** - Extracting features from a shell database produced several candidate features in the Edit, Extract command, but there was still only one shell entity after closing the Extract panel.
- SPR 13946** - Pointwise was unable to export a structured block to ANSYS CFX.
- SPR 11119** - Interior grid points on a database constrained domain were not being reinitialized when a database with a different shape as the first, but the same name, was being imported.

Pointwise V16.04 Release 4

The below listing is provided as a reference for issues that were fixed in Pointwise V16.04 Release 4:

- SPR 15035** - Entities that were moved to a layer that was Off were still visible in the Display window.
 - SPR 15034** - Pointwise was unable to load a file because of a corrupt connector in the project.
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- SPR 15017** - Clicking in the open area of the Examine, Rules panel was not unselecting the existing rule.
 - SPR 14993** - Two structured blocks were unable to be joined.
 - SPR 14985** - Pointwise was unable to save a project file because of corrupt database entities.
 - SPR 14984** - Moving a large number of domains to a layer was taking a long time.
 - SPR 14975** - Exporting a T-Rex mesh to CGNS in order to recombine anisotropic tetrahedra into prisms caused Pointwise to exit prematurely.
 - SPR 14963** - Changing the display attributes of a large number of entities was taking a long time.
 - SPR 14907** - Pointwise exited prematurely while rotating blocks.
 - SPR 14848** - Unnecessary unspecified nFaces were produced in OpenFOAM export.
 - SPR 14827** - Instructions and templates for building a CAE plugin on Mac OS X workstations were incorrect.
 - SPR 14820** - Pointwise exited prematurely during block assembly.
 - SPR 14816** - Point placement was not referencing the current view in the Display window.
 - SPR 14806** - CGNS interface PointsRange and PointsRangeDonor data did not coincide properly.
 - SPR 14774** - 2D T-Rex was not being applied to specific domain topology.
 - SPR 14769** - Split location preference set for connectors was enforced for domains but was not available to change.
 - SPR 14735** - Splitting a redimensioned periodic domain skewed the point distribution at the split location.
 - SPR 14517** - Faces problem in OpenFOAM export following V16.04R2 release.
 - SPR 14502** - Many numbers in numeric fields on Mac OS X workstations were being cut off due to right justification if the panels were not wide enough.
 - SPR 14378** - Importing database entities of different lengths produced a misleading warning message which prompted the user to change the model size, but when the model size was changed, entities failed to import.
 - SPR 14290** - Shaded database trimmed surfaces were being displayed with coarse resolution.
 - SPR 13451** - Trim By Surfaces command was unable to trim two coons surfaces with a half-cylinder surface.
 - SPR 13450** - Pointwise was unable to export a project file to Gridgen.
 - SPR 13230** - Domains imported from Gridgen were twisted or skewed.
 - SPR 13111** - Using planes in the Intersect command created incomplete intersections.
 - SPR 12289** - Unstructured domains were unable to be created on a Nastran shell.
 - SPR 12157** - High model size tolerance caused a connector to have an odd grid point distribution.
 - SPR 11547** - Unstructured domains created on a shell entity were not initialized and had zero elements.

Pointwise V16.04 Release 3

The below listing is provided as a reference for issues that were fixed in Pointwise V16.04 Release 3:

- SPR 12978** - Certain Pointwise projects exported to Gridgen resulted in improper domain interiors.
 - SPR 13574** - Certain Gridgen restart files caused Pointwise to hang on import.
 - SPR 13830** - Assembly models during import of an IGS file resulted in no models being assembled.
 - SPR 13859** - In a hyperbolic extrusion of a grid, a symmetry boundary condition for the extrusion was not maintained.
 - SPR 13868** - For large grids, the cell count calculation was incorrect.
 - SPR 13883** - Import of very large entity count projects was taking a long time.
 - SPR 13989** - Plugin SDK boundary elements were not oriented properly.
 - SPR 14223** - 2D blocks are imported into Pointwise and are selectable from the Display window but not the List Panel.
 - SPR 14239** - Pointwise raised an assertion when a user defined a plane normal in the Create, Plane panel.
 - SPR 14245** - Rotationally extruding multiple domains 360 degrees resulted in a twisted extrusion.
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- SPR 14246** - Pointwise exited prematurely setting a Growth Distribution Function on a connector (Mac OS X workstations only).
- SPR 14261** - Pointwise exited prematurely initializing an unstructured block in which two domains had just been joined.
- SPR 14263** - Pointwise exited prematurely when exporting a 2D domain to CGNS.
- SPR 14267** - Initializing an unstructured block on a linux workstation took an excessively long time due to tolerancing issues.
- SPR 14300** - Collapsed hexes were not mapped correctly to tets for export.
- SPR 14315** - A periodic domain did not get updated when the domain it was linked to was changed.
- SPR 14345** - Export of a 2D grid to CGNS when the Grid Dimension was set to 3D failed.
- SPR 14346** - Pointwise hangs after a user selects two unstructured blocks then Edit, Join
- SPR 14348** - A connector selected for Splitting had a change in shape once the Split panel opened.
- SPR 14370** - An empty but defined unstructured domain was not highlighting properly when selected.
- SPR 14391** - The Grid, Dimension command was overshooting topological slaving.
- SPR 14396** - Domains were not being created on models containing very thin quilts.
- SPR 14408** - USM3D export had errors related to boundary triangles.
- SPR 14409** - Importing a file into Pointwise caused error messages about different data dimension and resulting in a grid that could not be resaved nor exported to Gridgen successfully.
- SPR 14412** - Exporting a grid and database to Gridgen caused error messages to appear in the Messages window and created a .dba file that could not be imported into Gridgen.
- SPR 14423** - When using Edit, Trim By Curves with a particular quilt, all buttons within the Trim By Curves panel were disabled until the mouse was moved.
- SPR 14436** - Joining domains in Pointwise caused it to exit prematurely.
- SPR 14440** - A quilt with connectors on it was selected for the Edit, Trim By Curves command. No trimming occurred and the command was cancelled. This operation left behind a rendering artifact of the connectors on the quilt once Pointwise was restarted.
- SPR 14459** - Import of a project file was crashing.
- SPR 14462** - BC setting was taking too long.
- SPR 14470** - Side set data was not exported to Exodus II.
- SPR 14483** - Gridgen restart file import was failing.
- SPR 14484** - Curve not pasting correctly.
- SPR 14604** - Models assembled from surfaces of revolution caused odd rendering.
- SPR 14627** - Copy and Paste was changing connector distributions.
- SPR 14638** - Shape distribution function did not work on multi-segment DB curve constrained connector.

Pointwise V16.04 Release 2

The below listing is provided as a reference for issues that were fixed in Pointwise V16.04 Release 2:

- SPR 14150** - When setting the boundary condition IDs to negative values for the NPARC CAE solver, users were seeing large IDs being returned in the ID window.
 - SPR 14144** - The volume condition IDs for the Splitflow CAE solver were not being exported to the Splitflow .inp file.
 - SPR 14136** - Redimensioning connectors in a grid caused Pointwise to exit prematurely.
 - SPR 14105** - After deleting a boundary condition, the color coding between boundary conditions in the panel and the display window got out of sync.
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- SPR 13988** - Using movement restrictions while creating a line or curve on database caused the second point selected to remain fixed to one point on the database.
- SPR 13824** - Intersecting two groups of entities caused Pointwise to exit prematurely. Swapping the groups entities resulted in an incomplete intersection.**SPR 14091** - The boundary condition ID for the "User Defined" physical type for Cobalt was not being exported to the Cobalt .bc file.
- SPR 14067** - When the Boundary Decay attribute in the unstructured grid solver is set to a maximum value of 1.0, the initialization of a domain takes 5 times longer than when it is set to 0.999.
- SPR 14057** - If the CAE solver was set to CGNS, export of a set of unstructured blocks to CGNS would cause an asterisk to be added to the filename in the title bar of Pointwise. The indication that the file had been changed when it really was only exported has been corrected.
- SPR 14043** - The export format for the CFL3D CAE solver had issues in the Boundary Condition Segments and Boundary Condition Specification lines. The byte ordering for the file export was also changed to NATIVE.
- SPR 14015** - When creating extruded domains on a database surface, not all of the domains were rendered in purple to indicate that they were database constrained.
- SPR 12561** - Import of a CGNS file created by ANSYS FLUENT caused Pointwise to exit prematurely.**SPR 13914** - An OpenGL windowing error was appearing when Pointwise was run on some Linux workstations.
- SPR 13908** - Export to Exodus II failed for blocks with degenerate cells.
- SPR 13901** - For the Intel Mac platform, file byte-order was incorrect for Exodus II export.
- SPR 13983** - A periodic domain was moved when a Gridgen restart file was imported into Pointwise.
- SPR 13886** - Splitting a shell database entity on which a domain existed caused Pointwise to hang up.
- SPR 13873** - Pointwise was improperly exporting boundary conditions for CGNS.
- SPR 13868** - The cell count calculation for some large grids was incorrect.
- SPR 13856** - The name of the WIND structured and unstructured solvers were clarified in the CAE, Select Solver panel.

Pointwise V16.04 Release 1

The below listing is provided as a reference for issues that were fixed in Pointwise V16.04 Release 1:

- SPR 13751** - The keypad NumLock key was not performing Body X rotations on some Linux workstations.
- SPR 13645** - Projecting a domain onto a database surface did not change its color.
- SPR 13629** - Information on the default coloring schemes in Pointwise was added to the User Manual.
- SPR 13616** - Certain extrusion settings crashed on 64-bit Windows, but not the 32-bit build.
- SPR 13592** - A B-Spline surface imported into Pointwise was not eligible for splitting.
- SPR 13579** - Borrowing was not working properly for the FLEXnet license manager.
- SPR 13512** - When exporting files to Gridgen, Pointwise experienced an assertion.
- SPR 13491** - Importing a scaled project file caused Pointwise to exit prematurely.
- SPR 13459** - Scaling grid entities constrained to a plane resulted in incorrect interior point locations for the domains.
- SPR 13452** - Using Undo after a transformation of database entities caused the entities to disappear from the Display window.
- SPR 13448** - An IGES file could not be imported into Pointwise.
- SPR 13413** - A prism extrusion was not following an adjacent grid boundary condition as prescribed.
- SPR 13378** - An internal error was raised while selecting domains for an extrusion.
- SPR 13289** - The Assemble Domains command would not assemble a domain from a group of connectors because of suspected overlap.
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- SPR 13244** - Recombining anisotropic tetrahedra during export to CGNS caused points to be removed from the symmetry plane.
- SPR 13241** - Export to the NCC CAE contained duplicate nodes between the domain's and the connector's points.
- SPR 12991** - Several models could not be assembled into one model at once.
- SPR 10638** - Importing a Gridgen restart file into Pointwise caused an internal error.

Pointwise V16.03 Release 4

The below listing is provided as a reference for issues that were fixed in Pointwise V16.03 Release 4:

- SPR 13357** - When auto-assembling domains and a block from a selection of connectors, one domain was not initializing properly.
- SPR 13309** - A structured block could not be assembled from a selection of domains within a grid.
- SPR 13254** - Composite file from Pointwise causes Gridgen to exit.
- SPR 13249** - Only have of a 360 degree surface is meshed via Domains on DB Entities.
- SPR 13306** - An empty domain is created.

Pointwise V16.03 Release 3

The below listing is provided as a reference for issues that were fixed in Pointwise V16.03 Release 3:

- SPR 13166** - Trailing space entered for XYZ coordinates caused the input to fail.
- SPR 13154** - Could not save a project file when BC names included the slash character.
- SPR 13128** - Structured domain distribution did not match connectors.
- SPR 13106** - Delete Special did not delete all the entities it should have.
- SPR 13102** - Files exported to the NASTRAN format were incorrectly being exported with comma delimiters.
- SPR 13090** - Joining two connectors changed the grid point distribution.
- SPR 13058** - Inability to scale a specific mesh.
- SPR 13040** - Delete Special was deleting too much.
- SPR 13010** - Memory usage compounded with repeated operations.
- SPR 12978** - Grid and database exported to Gridgen contained bad domains.
- SPR 12862** - Edit made to the Boeing-747 tutorial to clarify steps relating to display attributes.
- SPR 12477** - Blocks were not exported in the correct order.
- SPR 11397** - The recombination of prisms via Pointwise's CGNS export did not appear to produce a greater number of prisms than Gridgen's Extract Prisms command.

Pointwise V16.03 Release 2

The below listing is provided as a reference for issues that were fixed in Pointwise V16.03 Release 2:

- SPR 12938** - Boundary Table and Faces data was missing from FV-UNS export.
 - SPR 12922** - Attempting to split a connector or curve using XYZ or UV offset was unsuccessful.
 - SPR 12898** - The Glyph command `pw::Grid getCount` was not returning a proper error when passed an inappropriate argument.
 - SPR 12815** - Attempting to split a structured block then using the Undo command caused Pointwise to exit prematurely.
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SPR 12797 - For a particular structured block, no faces could be selected within the Grid, Solve, Face Attributes panel.

SPR 12746 - Attempting to trim one model with another using the Edit, Trim By Surfaces command was not producing the expected results.

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.

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- 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.
- 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 as donly 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.
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- 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.
 - 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.
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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.

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.

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- 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.
- 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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