

INTRODUCTION

Release Notes Avizo 7.0.1

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This document describes the improvements in version 7.0.1 of Avizo, the 3D visualization Software for Scientific and Industrial data.

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OVERVIEW

Avizo 7.0.1 is a minor release including issues fixes, enhancements and performance improvements. For major changes introduced in Avizo 7, please refer to Avizo 7 release notes and "What's new in Avizo 7" document.

Some issues listed below, and highlighted in bold font in next section, may require special attention as they involve changes in Avizo default behavior:

- 60: Persistent mode for object visibility in multiple viewers.
- 2071: Histogram computation enhancements.
- 2919: File browser on Mac OS changed in Avizo 7.
- 3105: Default filename pattern when saving stacks as 2D files.
- 3208: How to solve TCL script compatibility issues.
- 3248: 2D raw files import order corrected.
- 3285: Script port visible by default in script modules.
- 3504: Sorting of imported image series enhanced.
- 3516: License Manager: Computer ID changed between Avizo 6.3 and Avizo 7.
- 3662: No more default data window when loading TIFF images.
- 3675: Lighting disabled on projected volume rendering.

LIST OF SOLVED ISSUES

Issue#	Title	Release notes
60	Multi viewer default module visibility	When changing from one to multiple viewers, all display modules became visible in the newly created viewers. Now, when a viewer is first used during a session, the visibility of objects will be the same as in the first viewer (Id 0). The state of "link objects visibility" viewer button is now saved along with preferences and persistent across Avizo sessions. When this button is down, i.e. "link objects visibility" turned on, the object's visibility is synchronized across all viewers. To toggle visibility individually for each viewer, first toggle OFF the viewer button "link objects visibility". The TCL command setViewerMask does not take into account the "link objects visibility" button, which allows compatibility of previous scripts.
646	Crash when connecting the Isosurface colorfield to the dataset where has been applied the Isosurface module	Fixed. It was due to an invalid float value in the dataset (Not a Number). Such values are now replaced by "undefined values" (see commands setUndefinedValue, getUndefinedValue in Avizo User's Guide, Data Types>Spatial Data).
795	Snapshot doesn't support multi-viewers display	Only the current viewer was exported. It is now possible to specify a new option "Capture all viewers" in the snapshot dialog, as it was possible by using a TCL script command.
813	Bad error message when trying to save data as .MAT format when MATLAB is not installed	The error message has been changed to: "Matlab is not installed on your platform, you can't export a ".mat" file format."
1209	NetCDFControl time animation is 3x slower in Avizo 6.2 than 6.0	Fixed. NetCDFControl animation has been dramatically accelerated.
1284	Information about the codecs supported by the AVI export of Movie Maker module	Avizo FAQ and Movie Maker doc have been updated. All codecs installed on your machine before starting Avizo and found by Avizo are listed in "AVI Encoder" port of Movie Maker module. For instance, the AVI format of Movie Maker supports the H264avc.mp4 codec if it has been installed on your machine before starting Avizo. A Codec pack compatible with DirectShow (like ffdshow) should install the H264avc.mp4 codec.
1294	Wrong clip plane warning message	Fixed. Warning was too restrictive on usage of clip planes.
1461	Wrong default snapshot file path	The default snapshot file path is now the user's picture folder.
1512	Segmentation Editor: closing dialog is annoying	Fixed. The confirmation dialog warning about possible loss of selection when closing the Segmentation Editor is no more displayed after selection has been cleared.
1552	2DHistogramSegmentation failure at Watershed step	Fixed. The script showed a syntax error because of the TCL version on Windows 32-bit platforms.
1841	Projections are not working anymore with some display modules for unstructured models	Fixed. Modules such as Surface View, Cross Section, Grid View, and Isosurface incorrectly worked with projections. Representation were not visible or had hole with spherical projection (issue # 3322).
2023	Quantification module: input is marked as modified when using "I_Threshold" command.	Fixed.
2071	Too many histogram computations	Systematic histogram computation was introduced in Avizo 7 for display in the background of the range sliders and colormap editor. Several improvements have been done in

		Avizo 7.0.1: - Histogram computation has been substantially accelerated, in particular for byte data and 16-bit data (up to factor 3 speedup) - Histogram computation is deferred until actually required for display - It is now possible to disable histogram computation and background display. For this, use preference with menu Edit > Preferences > Layout > "Show histogram in background"
2131	Illuminated Streamlines (DisplayISL): incorrect display when using projections	Fixed.
2197	Rendering performance issue with Surface View when "reduce memory consumption" preference was activated	There was a specific performance regression on Linux, now fixed.
2210	Particle Pathlines: unwanted colormap change in Wind Edition	Fixed. With an attached colorfield, the Particle Pathline's colormap was incorrectly changed upon selecting a different dataset module in the project view.
2213	Leica .lif files are loaded twice by when reloading projects saved as pack&go	Fixed. The load command for .lif files was saved twice in project files.
2247	Error when generating surface path with Surface Intersector	Fixed. Infinite loop errors appeared in some case.
2364	Avizo crashed when reading a corrupted Abaqus file	Abaqus reader has been improved to detect corrupted files. A warning is now displayed.
2374	Segmentation Editor's Remove Islands filter: unexpected behavior	In the reported case the 3D filter did not eliminate as expected islands shorter than the size set in dialog. The Remove Island segmentation filter has been fixed and substantially improved for easier use. For details please refer to the updated Remove Island dialog or documentation in Segmentation Editor help > Label Filters > Remove Islands.
2403	The 'spin animation" viewer preference is not persistent when closing / restarting Avizo	This option available in viewer's popup menu is now saved and restored like preferences.
2412	Avizo fails to import LSM files from ZEN 710	Fixed.
2473	Movie Maker size port changed in Avizo 7	Preset size options have been updated in Avizo 7. Note that the size still has to be adjusted to multiples by 16.
2489	Using command line options -listen / -cmd on Linux causes a crash	Fixed.
2569	Incorrect display of Volume Render on NetCDF Geodetic unstructured meshes when projecting spherically	Fixed. A gap was visible along meridian and the projection was not correct (wrong orientation around z axis).
2631	Crash when converting Open Inventor Scene To Surface (lvToSurface)	Fixed. Crash occurred in some case when using "create connectivity" option.
2707	Detail unsupported features with XScreen	XScreen user's guide has been updated, see chapter "Using Avizo XScreen on a cluster", section 19.1.3.5.
2753	Disabling lighting option had no effect with Ortho Slice for LDA data	Fixed.
2782	MATLAB version check give wrong information	An obsolete warning about MATLAB version was fixed.
2919	File browser on Mac doesn't allow to set a path with the keyboard	Since Avizo 7, the file dialog changed for Mac OS X. On Mac OS X, to open a folder, choose an item in the "Look in" combo box. If the desired folder does not appear in the list (/Volumes for ex.), type the path directly in the "File name" field and press [Enter].
2935	Histogram issue with unstructured models when using ROI (Avizo Wind)	Fixed. Regions Of Interest are now supported with Histogram attached to unstructured models.

2986	CastField (Convert Image Type) uses last scale set for converting to labels	Even if scale port was hidden, the last scale set was applied. Scaling is no more applied when converting to label field.
3001	Transform editor not working in VR immersive mode	Fixed.
3010	Height Map Slice (HeightField): relative scale prevents comparisons in time series; inconvenient origin offset across slices	Two ports have been added to Height Map Slice: - "offset" now allows choosing a reference value for the altitude of the surface; - "mapping" now allows choosing between relative and absolute scaling.
3027	Background Detection Correction and Resample using reference do not work anymore	Fixed.
3040	Mosaic To Large Disk Data crashed when applied twice	Fixed.
3050	Batch conversion to LDA of JPEG files doesn't allow to choose channel and voxel size	When converting to LDA with "run batch" option, a dialog now allows setting image read parameters before scheduling job.
3057	Convert Image Type doesn't update resolution of output when resolution of input has changed	Fixed.
3061	Generate Surface seems generating wrongly open surfaces ... (Surface Editor's Closedness or Orientation test fails)	Surface Editor's closeness test does not apply to surfaces with several adjacent materials for which it will falsely report closedness errors. Orientation test can however apply in such case, as far as outer triangles of the surface have been assigned to material Exterior.
3105	Saving image stacks as 2D files (JPG, BMP, etc.) doesn't allow by default to set the number of digits in output filenames	Avizo can now determine automatically the right number of digits for the numbering pattern to be added in output filename. However it is still possible to override this by adding dash pattern placeholder in the default output filename (e.g. the ###th_file.jpg).
3134	New Threshold tool of the segmentation editor doesn't allow to make selection in several slices	The Threshold tool does not remove any more previous selections in other slices.
3138	Avizo freezes when loading some raw file	Fixed. Avizo could crash while reading raw file when the index order was set to z fastest in the image read parameters.
3145	Multi-channel data: channel selector is reset to all when changing a channel colormap	Fixed. Hidden channels now remain deselected after modifying colormap or range.
3147	Properties area content inconsistent with selected objects in project view	Fixed. The Properties area was not correctly updated when it was closed and reopened.
3165	Invalid name of the first exported file when saving a stack as 2D image files	Saving a stack without using ##### as a placeholder caused the first slice is named "motor.jpeg". All exported files are now correctly numbered.
3166	Wrong bounding box of Volume Rendering when applying Quantification commands in a script module	Fixed
3167	Crash when loading a stack of TIFF images	Avizo could crash in some case reading many TIFF images. This is now fixed.
3197	Volume Rendering, Isosurface Rendering, Volume Rendering Settings documentation update	Documentation has been updated relating to multi-channel and RGB data, volume picking and region of interest.
3202	Crash when removing in the Project view a gradient image that is displayed in the Segmentation Editor	Fixed.
3208	Error while executing TCL command: invalid command name ... (for instance with Plot Spreadsheet)	Since whitespaces have been introduced in module names, quotes must be used around the name of any module containing spaces in TCL commands or scripts.

		<p>For instance: "Plot Spreadsheet" allPorts For more about TCL scripts compatibility, please refer to Avizo user's guide, chapter 2 "What's new in Avizo 7", section 2.12.</p>
3212	Preference "Show viewer in top-level window" breaks the console panel layout	Setting viewer as top-level window now preserves panel's layout.
3213	Viewers in top-level window don't have any title bar/decoration on some systems.	This prevented for instance to move the extra viewer panel. This is now fixed.
3215	Connection ports hidden in Tree View mode	Connection ports are now again always visible in Project Tree View.
3217	TCL command "viewer setSize" doesn't create the viewer at the requested dimension	The viewer has now exact dimensions requested.
3221	Missing new folder icon in tree view	The "New Folder" icon is now visible on the right of the "Project View" tab label (in Tree View mode).
3232	Point Probe module help button/F1 goes to help home	Point Probe help is fixed.
3237	Tcl clock command does not work in Avizo console panel	Fixed.
3241	Crash while executing script that loads well log file when file is missing	Fixed.
3243	Volume rendering of unstructured NetCDF data crashes Avizo	Fixed.
3248	Wrong files selection order in image stack when loading 2D raw data	RAW data images stacks are now imported in the correct order instead of previous reversed order. For script compatibility, slice order can be changed by using the Crop Editor "flip z" button or the script/console command "<data> flip 2".
3257	Erroneous floating license request depending on system locale	Fixed. The license password was misinterpreted in some cases.
3258	Scalebars changed: non homogeneous display in a square viewer	Graduations are now restored to isotropic spacing. Two options were added in Avizo 7: reverse graduations and fixed size frame.
3259	Small data ranges no more supported for instance in Ortho Slice	Range slide port used for linear mapping was limited to 2 decimal digits. This limitation has been removed.
3260	Crash after trying to load Avizo ZIP format file as External Disk Data	Fixed. A warning is now displayed suggesting to convert to uncompressed format or LDA format.
3266	Distance Map from Auto Skeleton is scaled	Fixed. Volume Rendering did not take into account updated bounding box.
3271	Trying to load BMP or JPEG images as "external disk data" crash Avizo 7	Avizo can read as external disk data RAW format files or Avizo uncompressed format files. When trying to load other formats as external disk data, Avizo now proposes to interpret these as raw files.
3275	XScreen slaves abnormally require licenses to the license server	Fixed.
3278	Remesh Surface crashed in some case after starting decimation	Fixed.
3283	Volume Rendering doesn't display anything on some Quantification labels	A change in Avizo 7 required "fire" script commands for data objects in some cases. This is now fixed.
3285	Script module properties different when loaded from a .hx project and when loaded directly from .scro file	The "script" port ("Restart" button and script file path) is now shown by default, whether loaded from script or not. This port can be hidden by adding in script object constructor: "\$this" script hide
3286	Error while executing Avizo Fire script module with input label data open in segmentation	Fixed. The segmentation editor did not update data properly which caused an issue with Quantification module used in the

	editor	script.
3287	Mask from Volume Edit not matching input position	A change in Avizo 7 required "fire" script commands for data objects in some cases. This is now fixed.
3288	Transform Editor has no more effect on External Disk Data.	Fixed.
3292	Segmentation editor threshold tool in "All slice" mode did not work with large volume	Fixed.
3293	Requirement for GPU-accelerated image filters	The GPU-accelerated version of Anisotropic Diffusion and Non-Local Means image filters requires a CUDA-enabled GPU. All compatible GPUs are listed here: http://developer.nvidia.com/cuda-gpus .
3295	Improve internal error handling	Avizo mechanism for intercepting crashes has been improved. More cases are now intercepted. The internal error dialog has been clarified and allows you to attempt saving the current project and/or continuing Avizo, to retrieve execution information that can be sent to the technical support, or to quit shortly Avizo.
3296	VRML model performance issue	Avizo 7 had a specific performance issue with VRML models that is now fixed.
3302	Avizo 7 crash when loading 2048 TIFF-8bits images 2048x2048	This was working in Avizo 6.3.1 and is now fixed.
3304	Shading issues at the date line when using an Embossed Slice on unstructured mesh	Fixed. This caused incorrect display of a visible seam along meridian when using projection.
3307	Vector Plane - very slow when changing "Scale" value.	Vector Plane display has been dramatically accelerated.
3310	Surface Cross Section crash	In some cases, Surface Cross Section crashed with large surface displayed.
3313	Unit selection has abnormally to be done for each channel and time step of a Leica Liff file	Fixed. Unit selection is now only requested once. This applies when the "Show Units dialog when loading data" preference is set.
3315	Can't reload project with Leica liff file saved with option pack&go	The LIF load command was incorrectly saved and caused an error when project was reloaded.
3325	Display difference between Windows and Linux of a projected volume render	Fixed. There was an issue with projected volume rendering on Linux.
3326	Issues with performance and display artifacts with XScreen 7.0	Several issues relating to performance and rendering on multi-board systems have been fixed.
3397	The viewer's pick tool (P) doesn't outputs information in the console when picking a Volume Rendering representation	The viewer pick tool now displays module name and picked coordinates for all display modules (unless set not Pickable).
3399	Range Calibration Contours is not updated when connected to a Slice	Fixed. The contours were not updated when moving the slice.
3427	Interactive Thresholding - doesn't copy transformation matrix.	Input and result didn't have same location since geometric transform was not copied to result.
3442	Spline probe and line probe: coordinates input in point port doesn't work correctly	Fixed. It was not possible to apply the same value for a specific axis to several points.
3453	Segmentation Editor: small holes appear in selection while using the threshold tool.	Fixed. While updating selection, display could be incorrectly refreshed.
3458	XScreen: Volume rendering errors on multi GPU	Rendering was missing or incomplete on some displays when using multiple graphics boards on a system.
3462	Interactive thresholding on floating point data generates incoherent result if threshold values are not integer	Threshold was rounded. This is now fixed.

3465	TCL pickCallback does not work as before	Pick callbacks like example provided in chapter « 12.6 Registering pick callbacks » did not work anymore since module names may contain whitespaces. Module name is now surrounded by quotes in the returned string argument of a pick callback.
3474	Segmentation Editor: Threshold Tool does not work with large volumes	Fixed. Threshold tool only updated 3 slices in volumes exceeding 2.147.483.647 voxels.
3482	Cannot resample a volume to 1024^3 on machine with 32GB of memory	Fixed. The Resample module wrongly required too much memory.
3497	setPickCallback TCL command returns wrong results for XScreen immersive configuration	The returned picked point coordinates are now converted into scene coordinates instead of immersive display coordinates.
3502	Quantification analysis result label image doesn't keep bounding box of input	Fixed. I_analysis module did not always use updated input bounding box when creating a label image.
3504	Invalid slices loading order in a stack	Fixed. The sorting order for loading file series such as stack slices was extended in Avizo 7 to address multiple groups of digits in filenames. It now manages also international Unicode characters. File names are sorted by alphabetically comparing the included groups of non-digit characters and numerically comparing the included groups of digits; for instance: A1B1, A2B1, A10B1, A10B2.
3515	Time Series Control loses Threshold of "Isosurface Rendering"	Ports of modules connected to downstream data of Time Series Control are no more reset when changing time step.
3516	License Manager: Computer ID changed	IMPORTANT NOTE: the Computer ID used for Avizo licenses has changed between Avizo 6.3 and 7.0. When requesting licenses, please make sure to provide the latest Computer ID, as shown in the Computer ID field of the License Manage of current version of Avizo. Remind also that on some computers, several computer IDs appear in the Computer ID field. Make sure to provide all of them (the whole field content) in your request. Otherwise your license key may not work when some devices are turned off. Please refer to the Avizo user's guide for more details about Avizo License Manager.
3519	Volume Edit is not reloaded correctly	Fixed
3529	Spline Probe - "follow slice" issue	Slice number port can be changed to control probe position.
3538	saveProjectAs asks confirmation to save modified data	The new "saveProjectAs -forceAutoSave" option can now be used to silently save projects, for convenient use in scripts.
3541	Can't load .las file with drag&drop or Open Data (As)	Fixed. LAS files could only be loaded by right-clicking on Wells folder in the Tree View (Import Well Logs).
3544	Avizo Earth: crash when loading some LAS well log file	Fixed
3553	Saved project using a FIB Stack Wizard module could not be reloaded.	The FIB Stack Wizard is now correctly saved in projects.
3562	CSV reader fails to import files having less than 3 lines	Fixed. Tables with less than 3 lines were ignored.
3563	Bad rendering of well logs - reversed face culling	Back faces were visible instead of front faces. Correct culling is now used.
3605	Volume rendering does not work properly after filtering in I_analyze	Fixed. In some case, the Volume Rendering did not consider updated data bounding box.
3623	Starting Avizo under gdb on Linux fails if another version than Python 2.7 is installed	Fixed. When launched with gdb, Avizo now uses the system's libpython instead of the one included with Avizo.
3632	Isosurface crash on Linux with some large dataset	Fixed

3662	When loading a 3D TIF the data window is set to [0;4095] regardless of real data range	This resulted in unexpected default range for visualization. The TIFF reader doesn't add anymore a Data Window parameter to the new data.
3675	Lighting issue on projected volume rendering	Rendering artifacts appeared in projected volume rendering since the diffuse lighting was turned on by default in Avizo 7. Lighting is now automatically disabled (none) when volume render is used with a projection, as it was the case in previous Avizo version with Voltex High Quality.