RELEASE NOTES - AVIZO 8.0.1, OCTOBER 2013

Avizo 8

3D Analysis Software for Scientific and Industrial Data

Dear Avizo User,

With this document we would like to inform you about the most important new features, improvements, and changes in this version. Please read these Release Notes carefully.
We would appreciate your feedback regarding this version. If you encounter problems, but also if you have suggestions for improvement, please report them to vsghotline@fei.com.
We would like to thank you in advance for your efforts.

October 2013, the Avizo and Amira team

CONTENT

OVERVIEW

Avizo 8.0.1 is a maintenance release including issue fixes, enhancements, and performance improvements. For major changes introduced in Avizo 8.0, please refer to the *Avizo 8.0 Release Notes* and the *What's new in Avizo 8.0* document.

SOLVED ISSUES

The 8.0.1 maintenance release provides various enhancements and solutions to known problems including the following:

2698, 4763, 5270	**Anisotropic Diffusion (Avizo Fire)**	Anisotropic Diffusion has been added to the filters applicable within the Slice module. See also the module Filter Sandbox for previewing effects of image filters. Failure could occur when this filter was applied to a large volume. A regression making the number of iterations applied in GPU mode incorrect has been fixed.
3863, 4727	**Avizo XLab**	2D binary images are now supported by XLab Hydro. XLab modules could return incorrect results for input data with associated geometric transform, for instance when the input label field was translated with the transform editor.
4067	**Point Probe (Avizo Fire)**	A new port "Coord System" has been added to Point Probe. Point Probe can now display or set the point coordinates either as lattice index, local coordinates (according to bounding box), or global coordinates (world coordinates taking into account the geometric transform matrix). By default, global coordinates are displayed. The former option "display 3D coords" in Callout Settings has been removed.
4078, 4837, 5454, 5496	**ATI Radeon/FirePro graphics**	A number of issues have been solved for ATI graphics boards. Avizo has been adapted to circumvent some possible graphics driver flaws. However it is recommended to install the latest compliant graphics driver. The latest driver reported to work well with Avizo is *Catalyst Software Suite 13.9* (18-Sep-2013). If no compliant stable driver is available, depending on the platform, issues may be solved by installing the latest beta driver (currently 13.11-beta). Drivers for AMD/ATI Radeon/FirePro can be retrieved here: http://support.amd.com/en-us/download Incorrect rendering in some cases can be solved by enabling the legacy surface rendering mode in Avizo preferences (menu Edit > Preferences > Rendering).
4317, 4603, 4820	**Ortho Slice**	An interaction performance issue has been solved: using the default mapping type (linear grayscale colormap) now allows the same performance as previous linear mapping type. In orthographic view mode, an Ortho Slice could disappear temporarily due to incorrect view clipping. Ortho Slice texture could disappear temporarily in some cases when transparency was set to alpha.

4578, 4762, 5135, 5223	**Non-Local Means Filter (Avizo Fire)**	There were artifacts in some constant gray areas. Incorrect normalization could occur with large data and prevent expected filtering. The GPU mode caused CUDA error on some GPUs. Performance has been significantly increased in a number of cases. The filter effect could vary depending on the cropped subvolume because the normalization was based on the entire volume even in 2D mode. Normalization is now performed slice by slice when the filter is applied slice by slice, otherwise on the complete volume. For compatibility, a Tcl command normalizeBySlice <0|1> is added to the NLM filter to force the previous behavior ("Non-Local Means" normalizeBySlice 0). However the expected correct behavior is normalization per slice, which is now set by default.
4692, 5138	**Antialiasing**	Antialiasing had no effect on Linux and Mac OS. Antialiasing could cause an Avizo failure in some cases.
4757, 4768	**Large Data Access format**	Conversion to LDA file format failed with some image stacks using PNG, BMP, or TIFF format An issue has been fixed allowing now loading large 2D slice as LDA file.
4782	**Remove Small Spots (Avizo Fire)**	Incorrect interpretation of size has been fixed.
4821	**Global Analysis (Avizo Fire)**	Global Analysis now works with “per-slice” XY interpretation.
4914, 5398	**Analysis results (Avizo Fire)**	A new module "Analysis To Spreadsheet” is available for converting Label or Global Analysis results to spreadsheet data (HxSpreadsheet). A new Tcl command "getSelection" returns the list of cells (column-row pairs) currently selected in the Table Panel. Label tracking was disabled for Analysis created by Analysis Filter.
4947	**Surface Area Volume**	Negative volume values can occur when a material's boundary surface is not closed. A new column indicating the surface closedness has been added to the spreadsheet output by Surface Area Volume. Surface Area Volume displays a warning if any material boundaries are open surfaces.
4957	**Movie Maker**	Projects including Movie Maker and saved on Windows caused a script error when reloaded on Linux or Mac OS.
4985	**Avizo Earth Edition**	Seismic Surface View: Horizon Seismic Surface View was not updated when the colormap was edited.

5017, 5071	**LSM reader**	Loading LSM files could fail in some cases. Some LSM time series were incorrectly loaded as stacks.
5096, 5169	**Interactive Thresholding (Avizo Fire)**	RGB thresholds of Interactive Threshold (when applied to RGBA images) are now persistent in projects. Interactive Thresholding is again applicable to label images.
5146	**Surface Editor**	It is now possible to select only visible triangles with the Draw tool lasso, in a similar way as the Brush tool.
5171	**Cylinder Slice**	Colormap range was inactive.
5176	**Voxelized Rendering**	The options “deferred lighting” and “ambient occlusion” are now enabled by default when this module is attached to label images, providing better rendering.
5177	**Influence Zones (Avizo Fire)**	Influence Zones was taking an abnormally long time to process.
5181	**Surface View**	Back face culling had no effect on GeForce graphics cards.
5187	**New Normalize Grayscale and Background Image (Avizo Fire)**	New modules Normalize Grayscale and Background Image are now available to replace former Quantification:normalize and Quantification:bkgimg.
5227	**Time Series**	Transform manipulator was not updated when changing the time step.
5238	**Avizo XScreen**	Support for clusters has been improved, in particular solving a regression related to multiple screens per node and transparency.

5251, 5275	**Linux support**	Here is updated information about running Avizo on Linux. Avizo is supported on updated Red Hat Enterprise Linux 64-bit version 6 and version 5 (5.5 or higher). Avizo has been reported to run also on compatible distributions such as CentOS and Scientific Linux. On other Linux distributions, Avizo might not run at first because required system libraries are missing or different versions of these libraries are installed. Here are libraries versions that may be required in particular: - libstdc++.so.6 - libjpeg.so.62 - libpng12.so.0 - libXm.so.4 Avizo has been reported to run on distributions such as Gentoo, openSUSE, Ubuntu, after adding libraries above in Avizo installation directory $AVIZO_ROOT/lib/arch-LinuxAMD64-Optimize. Additional libraries may be required depending on the distribution. See also Avizo User's Guide section 1.4 *System requirements*. The Avizo XPand optional pack for C++ programmers requires gcc 4.1.x. For any issue installing or running Avizo on Linux, please contact Avizo technical support.
5254	**Convex Hull (Avizo Fire)**	Convex Hull could fail for some binary label data.
5271	**Colormaps**	A new item is available for label fields in the Favorites and Compute menus in order to generate the corresponding colormap. This colormap can be used, for instance, to display label data with the same colors as the surfaces created from this label field by Generate Surface.
5280	**Transparency mode**	Transparency mode is now persistent, saved when quitting Avizo.
5281	**Avizo XPand**	CUDA examples: the search path for CUDA headers was incorrect in the generated build system on Linux and Mac OS.
5285	**Adaptive Thresholding (Avizo Fire)**	It is now also possible to attach binary label data (single material label).
5319	**Surface data export**	The Avizo Binary Surface format exported by default since Avizo 8.0 was incorrect, preventing the surface data from being reloaded. HxSurface format was required.

5320, 5321	**Avizo Green Edition**	NetCDF support has been improved. Failure while reading some netCDF files has been fixed. Earth was not displayed in the viewer when Earth module was created from Create Object (object popup). A new module Wind Barb is available for visualizing vector fields representing wind speeds and direction using barb glyphs.
5325	**Avizo Wind Edition**	Large CGNS file could not be read as in previous version.
5391	**TIFF reader**	Some TIFF files could not be read directly due to incorrect format identification, and required using “Open Data As…”.
5392	**Volume Fraction (Avizo Fire)**	Results inconsistency in some cases on multi-core systems has been fixed.
5424	**Sieve Analysis (Avizo Fire)**	Sieve Analysis failed in some cases when a label index was greater than the number of labels.
5449	**Filter Sandbox (Avizo Fire)**	An issue when saving a project containing this module has been fixed.
5486	**Axis Connectivity (Avizo Fire)**	A new port Neighborhood is available to define adjacency.
5511	**Generate Surface**	A memory leak could produce a memory overflow after several usages. Note that Generate Surface can still have high temporary memory consumption depending on the number of labels and the number of CPU cores used. For a large number of labels, you may want to reduce the maximum amount of memory required by limiting the number of threads allowed to one or a few in Avizo preferences (menu Edit > Preferences > Performance).