RELEASE NOTES - AMIRA 6.0.1, JULY 2015

Amira 6.0.1

3D Data Visualization and Analysis Software for Life Sciences

Dear Amira 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 any 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 cooperation.

July 2015, the Amira and Avizo team

CONTENTS

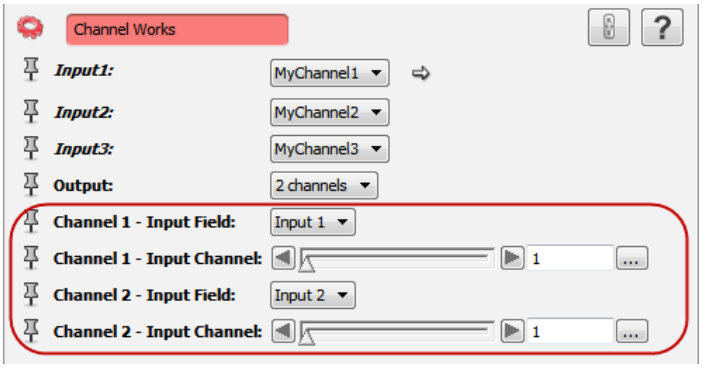
OVERVIEW

Amira 6.0.1 is a maintenance release including mostly issue fixes and enhancements, plus some new features. For major changes introduced in Amira 6.0, please refer to the Amira 6.0 Release Notes.

AMIRA – ENHANCEMENTS AND NEW FEATURES

CHANNEL WORKS MODULE IMPROVEMENT

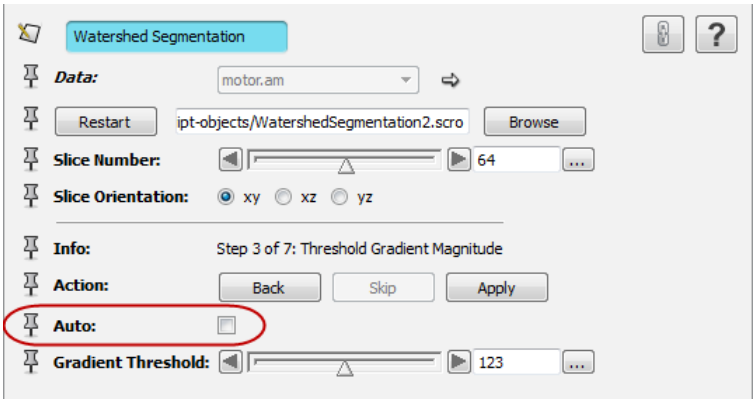
Usability of the *Channel Works* module has been improved by replacing the *Channel* ports with two ports each, one specifying the input field, the other specifying the associated channel to be used.



AMIRA XIMAGEPAQ EXTENSION – ENHANCEMENTS AND NEW FEATURES

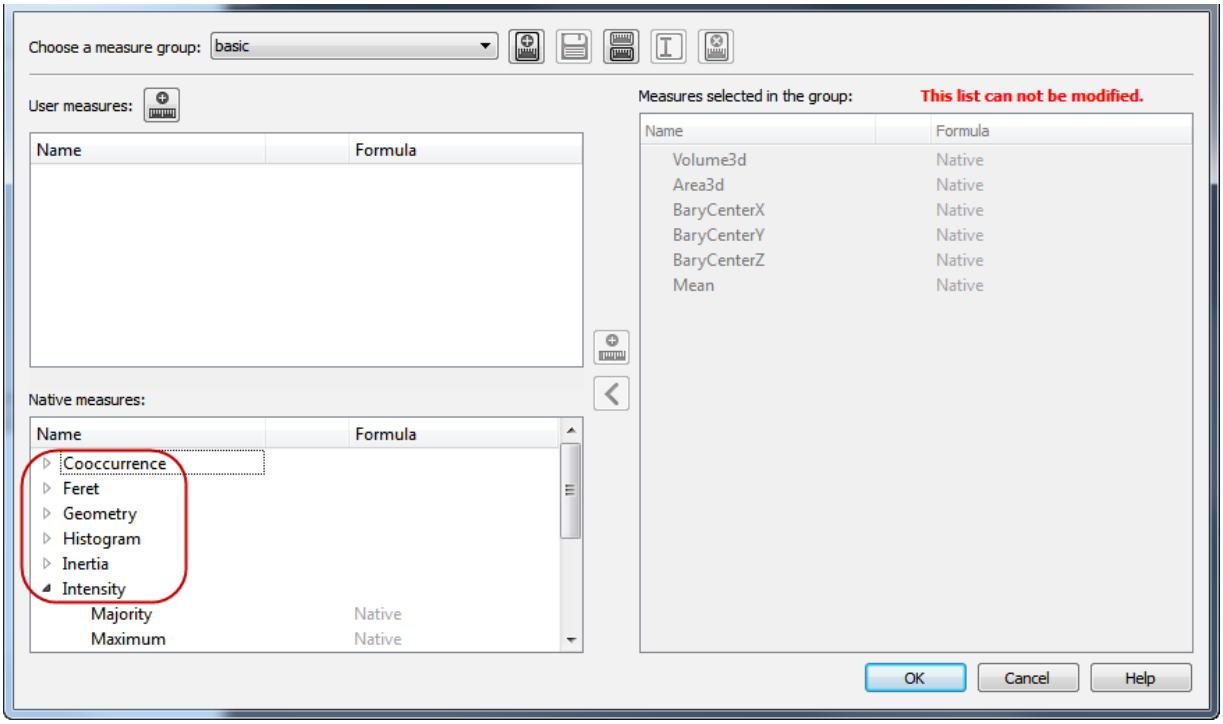
WATERSHED SEGMENTATION MODULE IMPROVEMENT

An *Auto* option has been added to step 3 of the Watershed Segmentation module. It simplifies the process by automatically computing the threshold on the gradient image instead of the user having to adjust it manually.



LABEL ANALYSIS MEASURES GROUP SELECTION DIALOG IMPROVEMENT

In the measures group selection dialog triggered by the *Measures* port of the *Label Analysis* module, the native measures are now gathered under categories in order to improve readability and ease of browsing.



QUANTIFICATION MODULE END OF LIFE

As announced since Amira 6.0, the *Quantification* module is deprecated, as it has been replaced by a large set of Amira native modules and components. The end of life of the *Quantification* module is planned for Amira 7.0. The module won't be available anymore after this. Therefore it is highly recommended to stop using this module.

Should you notice any command that you are using and that is missing among the new native modules, please report it to customer support vsghotline@fei.com.

OPERATING SYSTEMS

Like Amira 6.0, Amira 6.0.1 runs on:

- Microsoft Windows 7/8 (32-bit and 64-bit).
- Linux x86 64 (64-bit). Supported 64-bit architecture is Intel64/AMD64 architecture. Supported Linux distribution is Red Hat Enterprise Linux 6.
- Mac OS X 10.7, 10.8, and 10.9 (64-bit).

In order to add custom extensions to Amira with Amira **XPand**, you will need:

- Microsoft Visual Studio 2010 (VC++ 2010) with Service Pack 1 on Windows. Amira 6.0 and Amira 6.0.1 are the last versions to support Microsoft Visual Studio 2010. Amira 6.1 will introduce Microsoft Visual Studio 2013 support.
- gcc 4.4.x on Red Hat Enterprise Linux 6.
- gcc 4.2.x, provided by the standard Xcode development environment, on Mac OS X.

Warning: You may have noticed, Mac OS X 10.10 and later are not supported. Therefore, if you are using the Amira XPand extension on Mac OS X, it is highly recommended that you do not upgrade your system beyond Mac OS X 10.9.

SOLVED ISSUES

The Amira 6.0.1 maintenance release provides various enhancements and solutions to known problems, including the following:

Align Slices	36934	A performance regression when connecting to LDA data objects has been fixed.
Auto Skeleton	36810	In preview mode, the display was no longer updated when the threshold was changed. This has been fixed.
Block Face Correction	30077	The documentation has been improved.
Calculus MATLAB	34372	Data transfer with the MATLAB engine is limited to 2 GB. This limitation of the MATLAB engine interface has been added to the documentation, and failure no longer occurs, but instead a warning dialog is displayed. Note that it may still be possible to process data larger than 2GB in a MATLAB script; however for this you have to handle data as several subsets passed as input variables to Calculus MATLAB, using Extract Subvolume for instance.
Color Wash	35031	An option port has been added to enable nearest neighbor interpolation, which avoids undesired interpolation artifacts when the input data is a label field.
CSV Reader	36132	The import of CSV Uniform Scalar Fields values formatted in scientific notation has been fixed.
DICOM Reader	33725	DICOM files with Icon Image Sequence (DICOM tag 0088,0200) are now correctly read.
Extract Subvolume	30395	Loading projects containing several *Extract Subvolume* modules could generate errors. This has been fixed.
Extract Surface	27143 (2860)	The module created the wrong number of points and patches. This has been fixed.
FIB Stack Wizard	36604	The wizard can be created.
Generate Surface	32858	A surface generated from a label field with no material bundles had incorrect colors. The correct color is now assigned to each material in accordance with the shared colormap of the label field.
	37506	Deleting a material from a label field, then generating a surface could cause the label field to be corrupted (wrong colors, missing materials…). The Segmentation Editor now updates the material bundles of the label field to prevent this kind of issue.
H-Extrema Watershed	33780	Changing the output type after a first computation no longer causes an error, and the computation is now performed correctly.
Image Ortho Projections	34834	The display is now properly updated when the module is attached to a time series and the selected time step has changed.

Influence Zones	23066 (5388)	Pressing the *Stop* button during computation now works properly.
Label Analysis	36590	When using the *Label Seek* tool, the crosshair is now correctly positioned on the first selected material.
	35984	Units are now correctly exported when exporting the result spreadsheet to the CSV format.
	34687	The spreadsheet result of a *Label Analysis* can now be duplicated correctly.
	28857	In *XY planes* interpretation mode, results, and more specifically inconsistent label IDs, have been fixed.
	22509 (4831)	Applying some of the native measures (*CircleDifArea, SegPerimeter, Euler3D, IntegralMeanCurvature, Rugosity*, and *Symmetry*) could cause a failure or error message. The measures have been fixed.
	34219	The documentation for *HistoQuantile* measures has been improved.
Label Fields	28244 (3961)	The *removeEmptyMaterials* Tcl command has been fixed and now works correctly, even with label fields that exceed 2 GB.
Label To Attribute	34439	The module's computation time has been dramatically reduced. The performance gain is particularly noticeable on large data sets.
LDA Converter	24143	The temporary LDM file created during conversion is now properly removed from disk when the conversion was aborted.
License Activation System	34964 35205 35218 35568 36160 36323 37123	The *FlexNet License Server Installation and Configuration* webpage has been updated with many new details and troubleshooting tips. Be aware that installation and management of floating licenses is not a trivial undertaking. It can require configuration of firewalls and an in-depth knowledge of the network configuration at your site. Ideally you will have access to a knowledgeable, resourceful, and experienced IT group to provide the necessary support.
	35665 35797	The *License Manager* section of the *User's Guide* has been updated with new details.
	33445 35138 35389 36325	Several issues related to the activation system have been solved.
	31665 33223	Amira 6.0 could take up to several minutes to start. This issue has been fixed
Marker-Based Watershed	29687	In some cases the module failed with error message "Can't acquite thread processing while processing not done". This has been fixed and the label field result is properly generated.
Material Statistics	28564	The result spreadsheet now includes units.
Multiplanar Viewer	28671	If the overlay is a channel from a multi-channel data object, the display is now correctly updated when using the registration tool.

	37307	The size of the text indicating the slice information in the 2D viewers was too small. The font size has been increased to improve the readability.
North Star Imaging Reader	37104	Amira now reads the NSI file format, as indicated in the documentation.
Plot In Viewer	33802	*Plot In Viewer* visibility is now restored properly when reloading a project.
Register Images	36054	The module failed with a memory error message when launched on large data sets. It now works on such large data sets.
	36974	[Mac OS X] Performance issues on Mac OS X have been fixed.
Resample	35659	The module failed to resample data larger than 2 GB. This has been fixed.
Resample Transformed Image	34066	When the input is a label field, the *Interpolation* port only offers the *Nearest Neighbor* method. This limitation is now described in the documentation.
Save/Export	35762	When creating a new project or when loading a project, unsaved data could be lost. A warning dialog is now displayed, with the possibility to save the data.
	18907	Saving *HxCluster*, *HxTetraGrid*, and *HxHexaGrid* now also includes the transformation applied to these data sets.
Segmentation Editor	36408	Visualization settings are no longer reset to their default when the label field has changed.
	30568	It is now possible to take a snapshot of all 4 viewers at a time.
Simplification Editor	37344	The surface simplification has been improved during the post processing step, decreasing the number of intersecting triangles in some cases.
Spreadsheet Filter	33074	The histogram display has been restored in the filter range ports.
Surface Area Volume	28564	The result spreadsheet now includes units.
Surface Path Editor	36505	The editor failed in some cases to import surface contours. This has been fixed.
Vertex View	36340	The display is now properly updated when scrolling through the time steps of time-dependent point clouds.
Volume Rendering	32029	When connected to a *Multi-Channel Field*, the *Channel Selector* port now properly restores the enabled channels when a saved project is being loaded.
	32030	The channel selector port layout has been improved, it is now easier to use when working with a long channel list.
Voxelized Rendering	35723	When connected to a label colormap, the colors displayed by the module sometimes were shifted between materials. This has been

		fixed.
Watershed Segmentation	34204	In some cases the module failed at the last step with the error message "Can't acquite thread processing while processing not done". This has been fixed and the label field result is properly generated.

Our team is dedicated to solving as many issues as possible to make your experience with Amira as satisfactory as possible. For this purpose, we would greatly appreciate your feedback regarding this version. If you encounter problems, or if you have suggestions for improvement, please report them to vsghotline@fei.com.