

Customer Product Release Summary

LFM Server 4.4.1.3

Release Date: 08/05/2017

This document outlines all changes made in the above release of LFM software.

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Superseded software version: LFM Server 4.4.1.0

LFM Software version numbers: X.X.X.X

First version field denotes general software series number.

Second version field is incremented to track major new feature implementation.

Third version field is incremented to track minor new feature implementation.

Final (fourth) version field is incremented to track error fixes.

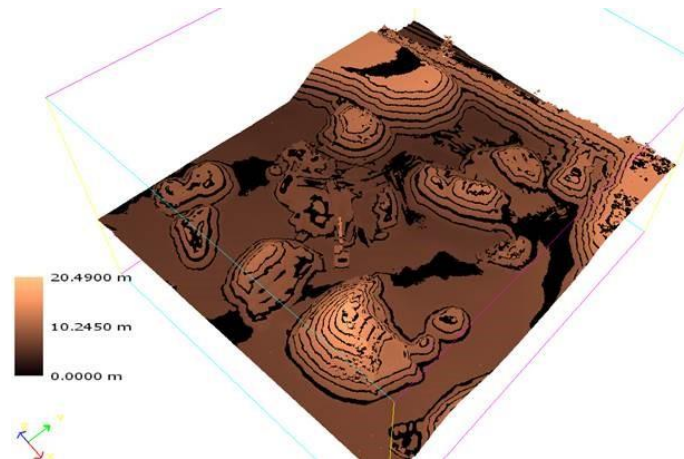
PC minimum supported specification:

Processor	Intel Core 2 Duo
Operating System	Windows 7 Pro x64
Memory	(4x1024) 667Mhz DDR2 Dual Channel ECC
Graphics	NVidia Quadro FX 2000
Data Storage	500GB SATA [Operating System & local project storage – if required]
Network	1GB Ethernet Card



Enhancements for this Series:

Surface Gradient Visualisation



The introduction of Surface Gradient Visualisation delivers a powerful and customisable new visualisation feature to users of LFM Server. Driven by the volume management toolset, users are now able to easily and accurately identify variations in gradients irrespective of size, angle or elevation. Whether you are identifying the relief of expanse landscapes or the degradation of walls you can now create your own personal ‘heat maps’ based on your highly-accurate laser data. With a choice of colour scales and customisable contours this new user-definable feature offers yet another advanced visualisation for your projects.

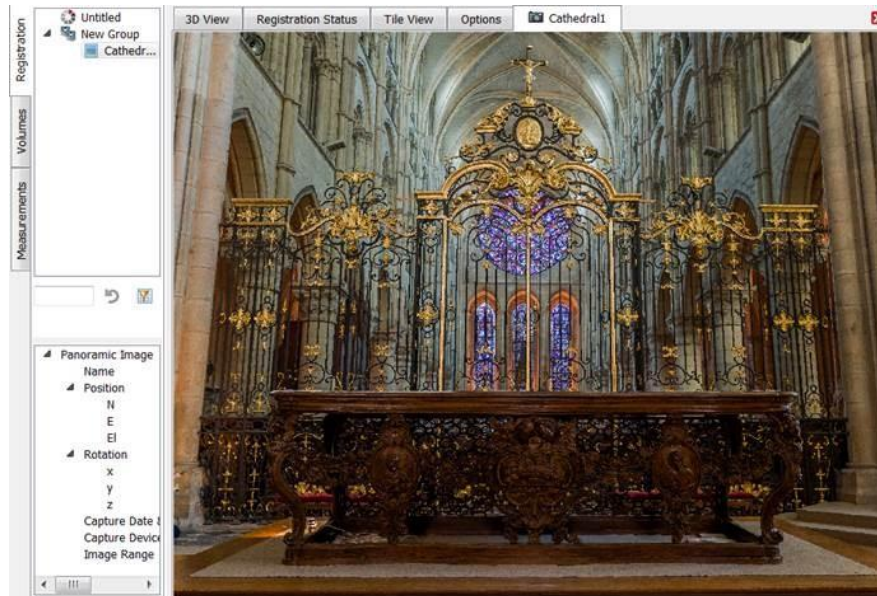
Please see <https://youtu.be/Pw5lkZ0rUIA> for a video of the new Surface Gradient Visualisation feature. You can also find more information about this feature in section 5.2.2 – *Colour by Distance* in the LFM Server Home Guide.

Structural Measurements

Critical to many of our customers is the ability to accurately identify and export structural dimensions for verifying against nominal geometry and use in CAD applications. By using our new structural fitting algorithm structural engineers are now able to work closer together on laser scan projects improving project collaboration and efficiency. The ability to refine section dimensions, position, & orientation ensures accuracy even where captured data might be insufficient, allowing engineers to make confident decisions.

Please see <https://youtu.be/sXfbDp9snQ8> for a video of the new Structural Measurements feature. You can also find more information about this feature in section 4.7.1 – *Measurement Tools* in the LFM Server Home Guide.

Panoramic Image Support



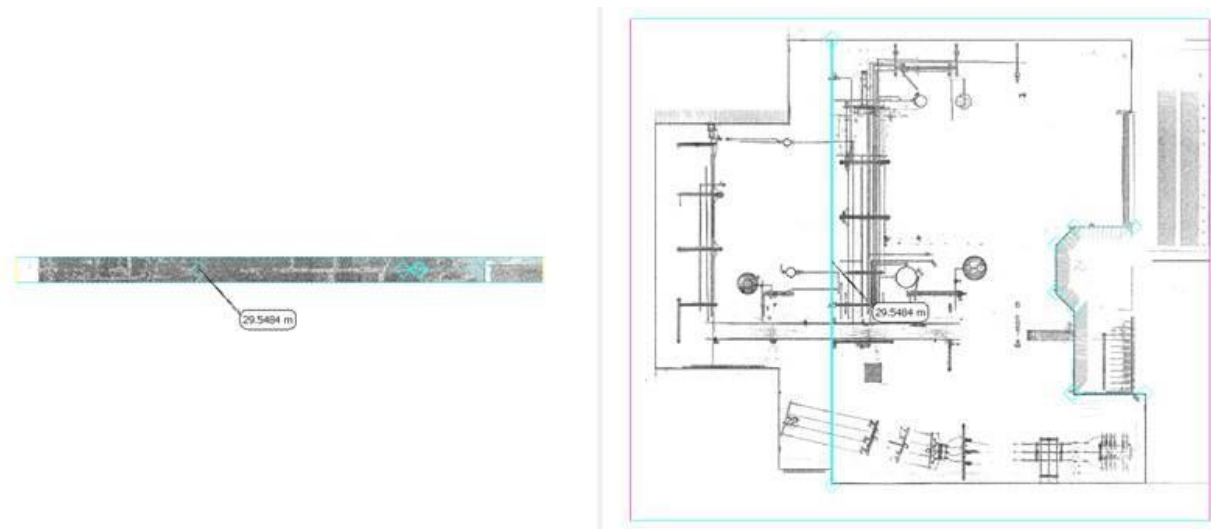
LFM have always strived to ensure our customers can use the tools most applicable to their businesses and projects to capture the existing environment. In keeping with this philosophy LFM Server now imports spherical panoramic images allowing you to very quickly capture high-resolution 3D imagery using a multitude of panoramic capture devices.

The LFM team have been working with our partner NCTech to integrate raw image data from their iSTAR camera allowing our customers with monochrome scanners to add colours their laser scans.

You can find more information about panoramic image import in section *1.4 – Importing Panoramic Photos* of the LFM Gateway Mode Data Preparation and Registration Guide.

You can find more information iSTAR colourisation in section *1.1 – Project Setup and Data Conversion Workflow* of the LFM Gateway Mode Data Preparation and Registration Guide.

Orthographic Measurement Improvements



A great feature for the rapid capture of 2-dimensional areas, this new capability allows users to simply slice through your data and quickly generate multiple 2D measurements with a handy 'snap-to-axis' functionality. Driven by our volume management tools this efficiently delivers accurate plan and elevation dimensions.

Please see <https://youtu.be/5qmzt-qPcHI> for a video of the Orthographic Measurement Improvements. You can also find more information about this feature in section 4.7.1 – *Measurement Tools* in the LFM Server Home Guide.

Platform Updates:

Meta Data

LFM Server now stores capture device information, scan date and GPS location allowing users to identify pertinent information about their projects.

LAS Data

The LFM team have enhanced our support for .las data to support multiple coordinate systems.

Please see section *1.2 – Importing LAS (.las/.laz) Data* of the LFM Gateway Mode Data Preparation and Registration Guide.

Streamline Product License Installer

We have made it easier for you to get your hands on our amazing products. Please read the *License Request and Installation Guide* (<https://goo.gl/XoXbaZ>) to learn more.

ASCII / ReCAP Export

LFM Server now exports for these formats with an unlimited number of points.

Windows 10 Support

LFM Server now supports the Windows 10 operating system.

LFM NetView 4.2 Project Publishing

LFM Server is now able to publish projects in preparation for the upcoming release of LFM NetView 4.2 in which you will be able to consume multiple datasets and project hierarchies in LFM NetView.



Known Issues:

Internal Reference	Description
LFM-1054	CAD Objects sent from Revit 2017 using “Show Objects” option in LFM Server toolbar and clicking on “CAD OBJ” button in LFM Server 3D workspace control bar won’t display any Objects. A fix for this will be provided in the next release of the LFM Server 4.4.1 series.
B5294	AutoCAD Plant 3D 2017 crashes when trying to show objects in LFM Server. Users affected by this issue can use the lfmServer2017P3Dx64.arx file (which will be in the LFM Software\LFM\arx folder) instead of the lfmServer2017x64.arx file as a workaround.
LFM-908	Imported .zgl objects appear in the incorrect position. Please use LFM Server 4.4.0.18 if you wish to work with .zgl objects until a fix is issued by LFM Software.
LFM-862	.tzf scans sometimes disappear from the Registration tab on scan conversion. Please use LFM Server 4.4.0.18 if you wish to convert .tzf scans until a fix is issued by LFM Software.
B3692	Importing an .lfm project file into another .lfm project file gives the wrong target positions resulting in red traffic lights for all targets. To get around this please update the scan headers in the source projects and add the updated .zfcfs to a new project. This will result in one project containing all scans that are registered correctly.
B5195	<p>LFM Server: Gateway Mode expects and supports the following variant of .ptx file:</p> <pre> 20222 X size 8623 Y size 785.884915 534.863432 43.552212 Position -0.086158 -0.996281 0.000973 3x3 orientation 0.996280 -0.086159 -0.001912 0.001988 0.000805 0.999998 -0.086158 -0.996281 0.000973 0 Homogenous matrix of position and orientation 0.996280 -0.086159 -0.001912 0 0.001988 0.000805 0.999998 0 785.884915 534.863432 43.552212 1 0.000176 0.539844 -1.156689 0.056916 36 35 33 x,y,z, intensity(0.0 -> 1.0), r,g,b (8-bit) 0.000175 0.537848 -1.151469 0.056931 36 35 33 </pre> <p>LFM are aware of some instances of .ptx files that do not match the format above. LFM will look to incorporate support for these variants as and when they become known. However, any variations on this format are susceptible to problems (including crashes or failure to convert). This includes failure to convert with the error "Failed to create a .zfc file, Intensity and Image files PATH.int ! Disk Full?"</p>



General/Server Mode error fixes for this release: 4.4.1.3

Internal Reference	Description	Solution
LFM-961	When loading Point Clouds the load becomes progressively slower.	Performance is improved. Now loading point clouds takes less time compared to previous versions.
B5523	Extended pipe diameter is returned to original position after reopening the project	The issue is fixed and extend pipe diameter is now retaining its position after reopening the project.
B5485	Demolition is not shown in HyperBubble if the demolition is performed before HyperBubble resources are created.	The issue is fixed and now demolition is shown in the HyperBubble if the demolition is performed before HyperBubble resources are created.
LFM-995	Object pre-processing for LFM NetView project publication does not automatically fill in the object file location.	The issue is fixed and now the object file location will be filled automatically when doing object pre-processing.
LFM-994	File size estimate on the LFM NetView publish dialog ignores the 'copy dataset' checkbox.	The issue is fixed and now the dataset size is displayed only when "Copy Dataset" checkbox is checked.
LFM-993	LFM NetView floorplan generation consumes RAM and takes a long time.	Performance is improved. Now LFM NetView floorplan generation takes less time to complete compared to previous versions.
LFM-992	LFM NetView project publishing does not produce an LFM file at the top level of the dataset directory.	The issue is fixed and now LFM NetView project publishing is working as expected.
LFM-986	Unable to do Remap XGEOM in PDMS CAD link without "Run Clashes" permission if User Control is enabled.	The issue is fixed and it is now possible to Remap XGEOMs in PDMS if the user does not have the "Run Clashes" permission if User Control is enabled.
LFM-984	Cannot see points in MicroStation when connected to LFM Server.	The issue is fixed and now the points are visible in MicroStation when connected to LFM Server.
LFM-982	Orthographic measurements are not snapping to an axis correctly when holding shift key.	The issue is fixed and now the user can snap the point correctly while measuring in X/Y axis by holding shift key in the Orthographic view.
LFM-1028	If a large dataset is loaded, importing a second smaller dataset displays points very thinly on the second dataset	Issue is resolved and the points on the second dataset now display as expected.



LFM-981	LFM Server does not store user specified file locations (e.g. for .int files). The user is asked every time where the files are if they are not in the default location.	LFM Server now stores the file location if the files are not in the default location. The user will only be asked once for the location of the files.
LFM-978	Error “BubbleView does not belong to a point cloud” while preprocessing Objects for NetView.	The issue is fixed and now user can pre-process the Object file for LFM NetView without any issues.
LFM-966	LFM Server interface still says “Connected to MicroStation” after the user has pressed the “Exit LFM Server Link” from within MicroStation.	The LFM Server interface now updates appropriately when the user exits the MicroStation CAD link
LFM-955	All entities (Volumes, Measurements, Benchmarks, Markups etc.) are moved from their original position if the user sets the “Store Data In” option to File based multi user.	The issue is fixed and all entities (Volumes, Measurements, Benchmarks, Markups etc.) retain their original position if the user sets the “Store Data In” option to File based multi user.
LFM-910	Running a clash check doesn’t produce any clashes if the user deletes the existing clash files from the Clashes folder.	The issue is fixed and new clashes are successfully created even if the user has deleted the existing clash files from the Clashes folder.
LFM-863	Ortho measurement crosshairs not visible when the background colour is white.	When the user has their background set to white, the measurement crosshair is now black in the Orthographic view. This means the user can see crosshairs on a white background while performing Orthographic measurements.
LFM-987	Cannot zoom in/out in structural measurements modification window.	Issue is resolved, the user can now zoom in/out in the structural modification window.
LFM-677	Error continuously occurs when trying to Remap XGEOM in PDMS if user control is enabled and the current user does not have the “Run Clashes” permission	Issue is resolved, the error only occurs once. After the user clicks “OK” on the message it is not displayed again.
LFM-1037	Error stating “System translation is missing” appear when running object pre-processing for LFM NetView project publishing.	Issue is resolved, this error no longer appears.



Gateway Mode error fixes for this release: 4.4.1.3

<i>Internal Reference</i>	<i>Description</i>	<i>Solution</i>
LFM-1026	LFM Server crashes on import of LAS scans in Gateway Mode.	The issue is fixed and the user is now able to import any LAS scans in Gateway Mode.
LFM-973	For Dot Product (.dp) scans the Volumes, View and Measurements toolbars are greyed out.	The issue is fixed and now the Volumes, View and Measurements toolbars are available when using Dot Product (.dp) scans.



Product QA cycle:

The LFM Software development philosophy uses AGILE principles to ensure a high quality product which evolves to match customer requirements. Throughout the development cycle, test and evaluation is used to guide the process and minimise the final test overhead.

The final test process has three stages, and this document has been prepared after these have been completed. These stages are outlined below.

Individual Function Test

All LFM desktop functionality is examined for correct responses. Functions called from the Main Menubar, Main Toolbar, Modelling Toolbars, and Component Browser are tested in turn. This ensures that the functionality matches the design intent, and previously recorded errors have been fixed.

Destructive Test

This section of the test schedule is aimed at investigating to see if a software product exhibits proper behaviour when subjected to improper usage, or improper input. The tests are applied to different data samples, machines, and in a random manner to try to replicate 'real world' variations in user conditions.

Software Acceptance Tests

LFM Software concludes the LFM test cycle with a series of controlled examples aimed at simulating real life use situations. The finished models are QA checked against calibrated historical data, to ensure that the product maintains the previous output standard.