

LFM Server



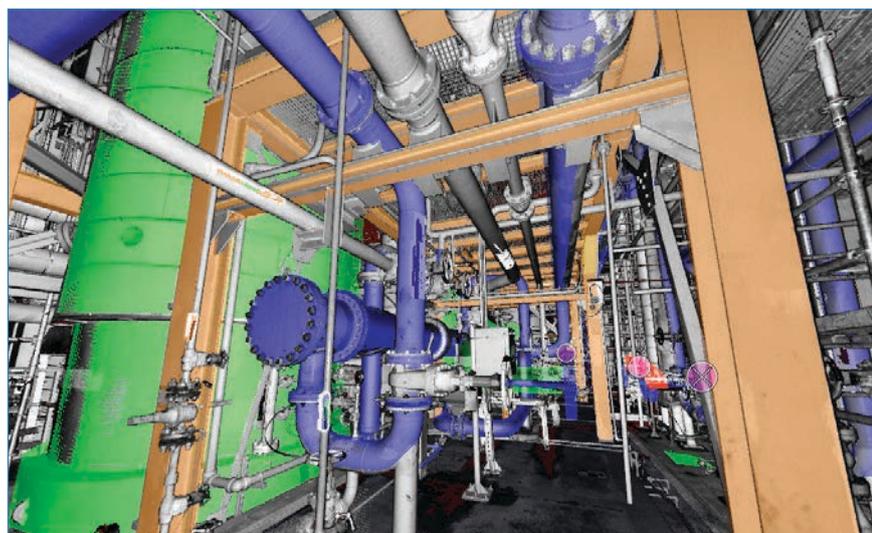
Import laser scan data and interface with all major 3D CAD packages.

As 3D laser scanning has become easier and more affordable it has become the technology of choice for 'as-is' data capture. LFM Server™ enables users to maximise the value of the rich information that laser scanning generates.

LFM Server is the most advanced solution available for accessing pre-registered laser scan data and working with it directly in 3D CAD systems. It is simple to use and offers unrivalled performance and functionality.

There are many different 3D laser scanners and 3D CAD systems in use today. LFM Server has been developed to provide users with maximum freedom of choice of both scanning and design systems. It can read unstructured data from various scanner types; not only terrestrial laser scanners but also hand-held, mobile or aerial scanners.

Designed to work with data from even the highest-resolution scanner, LFM Server enables users to work with datasets of unlimited size and exploit photorealistic, 360° BubbleViews™.



The LFM BubbleView™ is a true-to-life representation of a captured asset.

Business Benefits

Open on the input

LFM Server can read a wide variety of 3D data capture formats

Open on the output

LFM Server interfaces seamlessly with all leading 3D CAD systems

Unlimited Datasets

InfiniteCore™ technology enables project datasets of unlimited size to be readily created and accessed

Increased Productivity

The intuitive 360° BubbleView makes it easy to verify clashes, review laser scan data, or simply become familiar with the site

Clash-free Design

Accurate, detailed 'as-is' information minimises the business risks of revamp projects

Business Flexibility

Import scans from a wide variety of scanner types and data formats into a single dataset

Key Features

LFM Server enables the creation and management of unlimited point cloud datasets from a wide variety of laser scanners, and can link to all the leading 3D CAD systems.

■ BubbleView interface

BubbleViews are extremely versatile. They provide a realistic visual representation of the scanned site and a range of practical functions such as volume selections and pipe diameter measurements.

Dynamic BubbleViews

BubbleViews can be 'hot spotted' to add intelligence to the laser scan data. With information derived from a 3D model, users can configure which objects provide what information. Additionally, the 'Dynamic Objects' option enables users to display the objects they wish to see, by hovering the mouse over a particular area.

Coloured point clouds and coloured BubbleView

In addition to traditional greyscale images, LFM Server also supports laser scan data in colour. This coloured data is reflected in both the point cloud and the BubbleView, further enhancing this realistic viewing mode.

Neighbouring scan site map

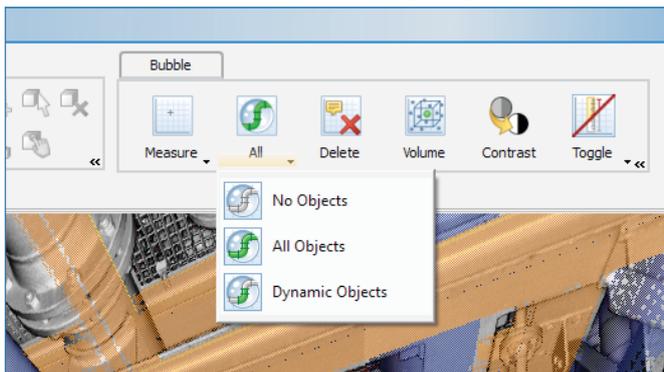
Each BubbleView maps the exact location of nearby scans. A single mouse click will switch into a neighbouring BubbleView.

Inter-BubbleView measurement

Multiple BubbleViews can be displayed, either in tiled view or as floating images. Users can measure accurately over very large distances across a site covered by many BubbleViews.

Quick-detach feature

A BubbleView can be rapidly detached from the tiled interface for use in a CAD system, or it can be directly launched from the CAD system. Once a BubbleView is detached, an integrated drop-down toolbar is available, which can be permanently pinned.



Dynamic Objects will only appear in the BubbleView when selected by users.



Hotspots in the LFM BubbleView.

■ Ability to read objects

LFM Server enables users to import and save CAD objects in an LFM Server project. 3D models created in LFM Modeller™ or other systems can therefore be reviewed offline directly in the LFM Server environment.

■ Volume selection

A high-resolution volume of scan coordinates can be rapidly retrieved using a simple and intuitive dynamic stretching box. Users can spawn off new regions, enabling multiple volumes to be quickly defined. Each volume can be morphed, manipulated and swivelled into a variety of shapes. Complex volumes can be selected regardless of their position in 3D space.

LFM Server also enables selection of a volume directly from the BubbleView. This avoids the risk of selecting an incorrect point in the background, ensuring correct volume selection. Volumes can be stored in the project file for easy retrieval.

■ Automatic clash detection

A powerful, efficient and reliable clash detection module displays every interference between a proposed 3D design and the as-built laser scan data.



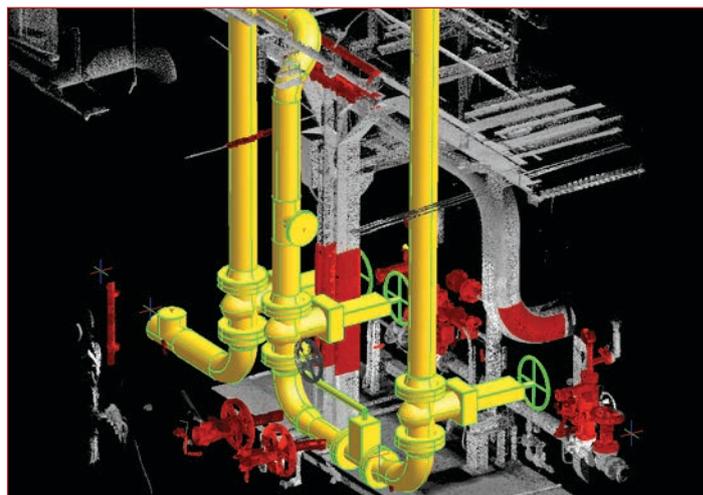
■ **Read multiple laser scan formats**

Data can be imported from all the major laser scanner systems, providing flexibility in the choice of scanner or service provider and enabling multiple scans from different hardware to be integrated.

■ **Non-structured data capability**

Data can be captured from a variety of terrestrial, mobile, hand-held or aerial 3D scanners, and consolidated in a single LFM dataset.

Unrivalled CAD connectivity



■ **InfiniteCore technology**

InfiniteCore technology enables an unlimited number of registered laser scans to be stored in a single dataset. Access speed is maintained and individual laser scans remain intact and available for rapid retrieval.

The LFM Server dataset seamlessly integrates the InfiniteCore scan/point cloud data and the high-resolution panoramic BubbleViews. This provides an unrivalled user experience and productive use of the data.

■ **Unrivalled CAD connectivity**

Optional CAD-Link modules enable seamless interfacing with 3D modelling solutions provided by AVEVA, Autodesk, Intergraph and Bentley. For example:

AVEVA PDMS™

Seamless integration with the AVEVA PDMS. Experience fully integrated laser scanning capabilities within your design environment.

Autodesk Revit

LFM Server complements Building Information Management (BIM) solutions such as Autodesk Revit. An unlimited number of laser scans can be used in this environment; ideal for large, complex projects.

Intergraph SmartPlant 3D

LFM Server can present the as-is facility to both SmartPlant 3D and Intergraph PDS.

A user can selectively clash check the whole site, defined volumes or individual objects. Clashes can be reviewed within the 3D point cloud window or using the LFM BubbleView interface. A powerful clash reporting tool supports project quality assurance.

■ **Integrated data**

LFM Server is datacentric, associating all measurements, benchmarks, tie-points and so on with the project file. This can be file- or database-driven.

■ **Powerful Manage tab**

The Manage window offers extensive data management capabilities. For example, the Objects browser enables users to rapidly locate objects in the point cloud, see which BubbleViews are already loaded, or even get information about each item displayed in the 3D view.

■ **Pipe tie-ins**

By enabling the creation of pipe tie-ins, LFM Server enables more efficient design processes.

Optional Modes

The optional LFM Operating Modes™ add powerful extra capabilities. All share a common user interface and platform with LFM Server.

The LFM Operating Modes can be used individually in a stand-alone fashion (for example, LFM Gateway™ is ideal for basic point cloud processing) but, when used in combination, enable a completely integrated workflow.

■ LFM Gateway Mode™

The most open laser scanning software available, LFM's connectivity can be extended from terrestrial 3D laser scanners to import other 3D data formats from mobile, hand-held or aerial scanners.

LFM Gateway also enables data export in open, industry standard formats.

■ LFM Register™

Within the same interface, raw data from individual scan positions can be integrated into a fully coordinated framework faster and more efficiently than with any other system. Data registered using LFM can be exported and used with downstream packages from other laser scanning software vendors.

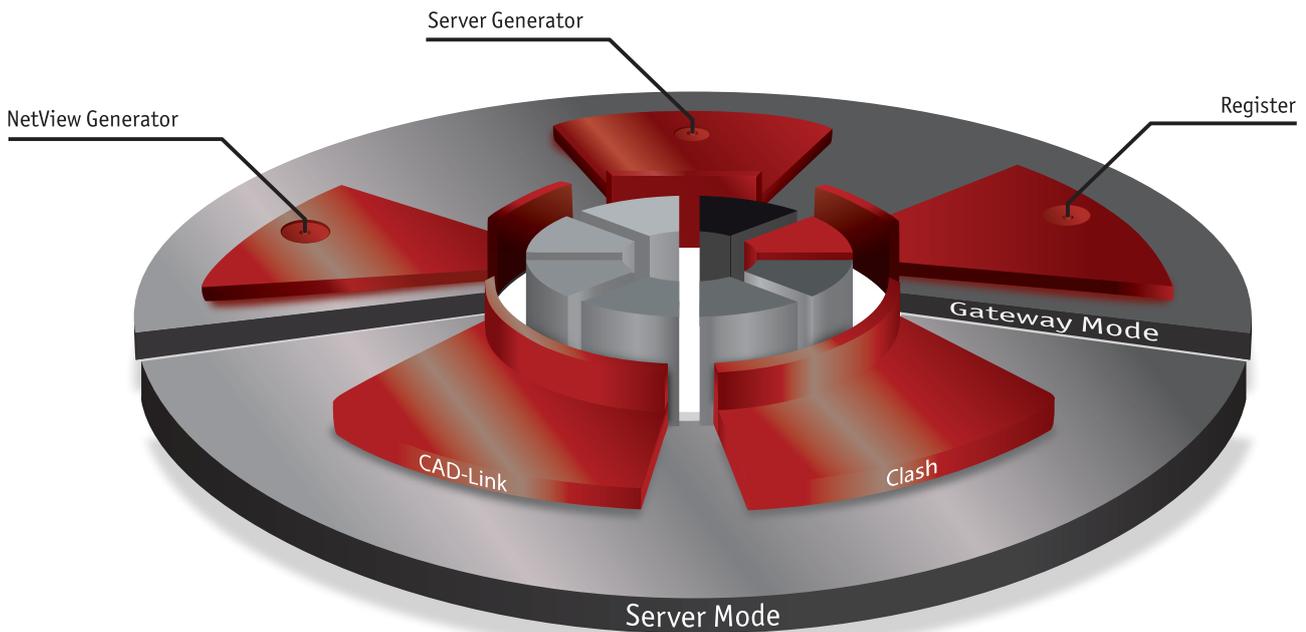
A single LFM Server-based product, this enables seamless creation of LFM NetView™ projects and generation of LFM Server datasets.

■ LFM Server Generator™

This creates InfiniteCore datasets for use in LFM Server and AVEVA Everything3D™. Registered scans can be taken from any registration tool to create added-value datasets that are widely used throughout industry. An updated user interface, with enhanced user assistance, reporting and licensing makes the process simple and intuitive.

■ LFM NetView Generator™

This organises and creates LFM NetView projects. These can be online or file-based.



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