# PRODUCT RELEASE SUMMARY
# AVEVA™ Point Cloud Manager (on-premise) 5.5.0.1

Release Date: 16/12/2020

This document outlines all changes made in the above release of AVEVA™ Point Cloud Manager.

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**Superseded Software Version:** LFM Server 5.4.0.4

# 1. Point Cloud Manager Version Numbers

Point Cloud Manager version numbers take the format 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.

# 2. Recommended CAD Machine Specification

| COMPONENT | RECOMMENDATION |
|---|---|
| Processor | Intel Core i7 Processor. 8MB cache 4/8 Cores |
| Operating System | Windows 10 Pro x64 |
| Memory | DDR3 1600 MHz 8GB RAM 1600 MHz |
| Graphics | NVidia Quadro K2200 with 4GB of GPU memory |
| Data Storage | 500GB SSD (Operating System & local project storage – if required) |
| Network | 1GB Ethernet Card |

For further information about Point Cloud Manager machine specifications please click **here**.

# IMPORTANT ANNOUNCEMENT

Please be aware Point Cloud Manager will no longer be supporting Bentley MicroStation V7 effective immediately in line with Bentley Systems no longer issuing major updates or support for Bentley MicroStation V7. As AVEVA's focus is to develop and test for the latest and greatest 3rd party CAD packages, dropping support for V7 will allow us to better focus our attention on more widely used and supported 3rd party CAD packages.

# 3. Recommended Graphics Cards

Point Cloud Manager is tested with a range of graphics cards. Below is a list of graphics cards that work successfully with Point Cloud Manager.

| GRAPHICS CARDS | GPU MEMORY |
|---|---|
| NVIDIA Quadro P5000 | 16GB GDDR5X |
| NVIDIA Quadro K6000 | 12GB GDDR5 |
| NVIDIA Quadro M6000 | 12GB GDDR5 |
| NVIDIA Quadro M5000 | 8GB GDDR5 |
| NVIDIA Quadro P2000 | 5GB GDDR5 |
| NVIDIA Quadro M2000 | 4GB GDDR5 |
| NVIDIA Quadro K600 | 1024MB DDR3 |
| NVIDIA Quadro P600 | 2GB 64-Bit GDDR5 |
| NVIDIA Quadro K2000 | 2GB GDDR5 |
| NVIDIA Quadro P6000 | 24GB GDDR5X |
| NVIDIA Quadro RTX6000 | 24GB GDDR6 |

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# 4. Enhancements for this Release

## 4.1. Product Renaming

AVEVA LFM Server has now been renamed to AVEVA Point Cloud Manager. This is in line with AVEVA's wider taxonomy project which aims to provide our customers with more functional naming which are better descriptions of the solutions we offer. We have also renamed our cloud offering.

## 4.2. Ability to Upload Pre-published Viewer Projects

Our customers have been requesting the ability to upload existing Viewer projects which have been published in the past. This is now possible from Point Cloud Manager 5.5 and offers customers a migration path to the cloud from on-premise for older projects.

## 4.3. Areas of no data with E57 scans from Leica Cyclone

Point Cloud Manager 5.5 will now no longer represent areas of no data as black within BubbleViews for E57 files from Leica Cyclone. Instead it will now utilise the colour image data across the whole BubbleView to give a better visual experience.

## 4.4. Publish HD BubbleViews by default for Point Cloud Manager - Viewer

Point Cloud Manager 5.5 will now automatically default to publishing BubbleViews for Point Cloud Manager – Viewer, on AVEVA Connect. As the preference of customers is almost always to publish as the highest quality, this option has been set to on as default.

## 4.5. Panoramic image only projects

Point Cloud Manager and the industry has matured to a point where laser data is not the only source of 3D data capture that is widely used. Panoramic Images are an extremely important part of the data capture workflow for our customers. Point Cloud Manager 5.5 now allows projects to be entirely composed of Panoramic Images without the need to have laser scan files.
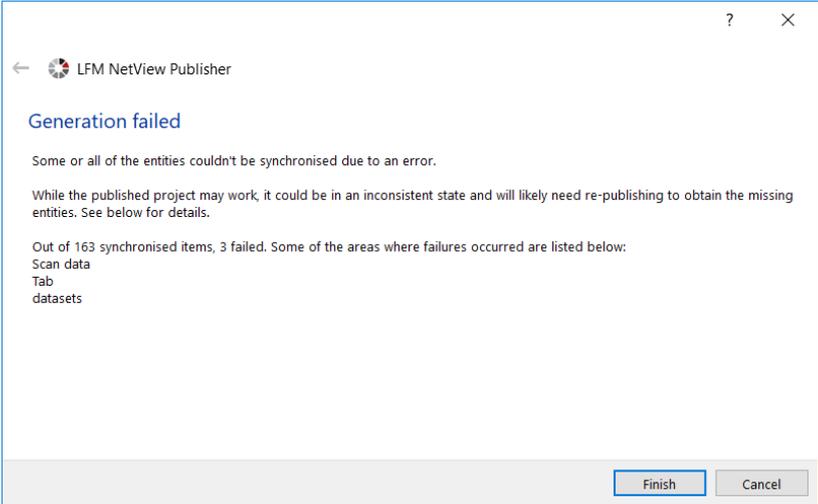
## 4.6. FARO SDK update

As part of our commitment to continuously support the latest and greatest scanners within the industry, AVEVA Point Cloud Manager supports the latest FARO SDK which brings support for even more scanners including the newest FARO Focus and Freestyle scanners, among others.

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## 4.7. Uploading ZFC files to AVEVA Connect

Within our cloud platform we are releasing new functionality for automatically creating datasets and Viewer projects from ZFC files. Point Cloud Manager on-premise now offers the ability to push ZFC files directly into the cloud platform by authenticating with AVEVA Connect and simply selecting the asset you want to upload data to.

# 5. Known Issues

| INTERNAL REFERENCE | DESCRIPTION |
|---|---|
| LFM-6218 | On completion of uploading a Viewer project to AVEVA Connect the error shown below is visible. The files that the dialog claims have not uploaded successfully can vary. This is an AVEVA Connect issue which we have reported to the AVEVA Connect team. In our testing we found that the Viewer projects do actually function despite these supposed failures so this warning can be ignored.  |
| LFM-5255 | Unable to add a clash clearance for Smart® 3D clashing. This is due to a technical limitation within the Smart® 3D solution when using exact clashing. We have offered our assistance to Hexagon to optimize this functionality for use with laser surveys. |
| LFM-4059 | Not all points are visible in the Ortho View after selecting Register All on a group of scans in Gateway Mode. This is expected behaviour for scans at certains positions if the Options > Orthographic View Depth setting is set to Automatic. To resolve this issue, please change the Options > Orthographic View Depth setting to Medium Range or Long Range. |
| LFM-2196 | Clashing PDMS objects are not displayed in Point Cloud Manager after performing exact clashing and toggling objects on. |
| 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 .zfc files to a new project. This will result in one project containing all scans that are registered correctly. |

| B5195 | Point Cloud Manager: Gateway Mode expects and supports the following variant of .ptx file: |
|---|---|
| | ```
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
``` |
| | *AVEVA are aware of some instances of ptx files that do not match the format above. AVEVA 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?"* |
| LFM-4216 | Dataset generation recovery sometimes fails. |

# 6. Product QA cycle:

The development philosophy used to produce Point Cloud Manager applies 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.

## 6.1. Individual Function Test

All Point Cloud Manager 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.

## 6.2. 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.

## 6.3. Software Acceptance Tests

AVEVA concludes the Point Cloud Manager 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.

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