



# PRODUCT RELEASE NOTES

**Model:** FinePointe™  
**Version:** 2.9.1  
**Build:** 2.9.1.12718  
**Date:** March 31st, 2021

DSI is pleased to bring you v2.9.1 of the FinePointe data acquisition and analysis software. Product Release Notes for FinePointe v2.9.1 indicate revisions made to the FinePointe software application since the v2.3.1.9 release.

FinePointe v2.9.1 is compatible with Microsoft Windows 7 (64 bit) and Windows 10 (64 bit).

## New features, enhancements, and fixes

Reference #	Description	Disposition
48804	New parameter representing the theoretical nebulizer output in ml/min. Applied to 1, 2 or 3 nebulizers running as a single value. Added to Tower tab within dosimetry, representing an important tool for computing mathematical aerosol concentration, and comparing against measured values. NebER will not be displayed in Dry Aerosol task sequences.	Enhancement, Inhalation New Parameter, NebER
48525	Improvement to regulation speed, resulting in 5x faster target humidity achievement times. Additionally, changing humidity targets during acquisition does not reset the algorithm, avoiding pronounced dips in relative humidity.	Enhancement, Inhalation, Humidity Control Optimization
48727	Users can now run COPD studies within the FDP site type using either a QT or Aux Controller, allowing inhalation users to leverage their nose-only plethysmographs post exposure, for longitudinal studies. Calibration done with syringe style wizard.	Enhancement, Inhalation, COPD Study Addition

48836	<p>Additional hamster specie added to WBP, FDP and dosimetry, motivated by increased popularity of the hamster model for COVID research. WBP – hamster specie utilizes mouse algorithm and mouse calibration settings. Chamber of choice is rat WBP with an additional pneumotach screen.</p> <p>For inhalation/FDP, at time of release, there is not a released hamster plethysmograph for nose-only or head-out. Please check in later for updates.</p>	Enhancement, Inhalation, Hamster Specie Addition
48834	<p>Penh is added to the dose analyzer. While understanding the physiology outside of WBP setting may not induce relevant results, we found it prudent to supply this indicating parameter. Similar calculation as the standard WBP algorithm applies:</p> $\text{Penh} = (\text{Te}/\text{Tr} - 1) * \text{PEF}/\text{PIF}$	Enhancement, Inhalation, Penh Parameter Addition
48302	<p>A bug was discovered where the Combined Threshold option had two possible conditions (require one, or both conditions). Once the option to require both conditions was selected, it was being enforced, even if the Combined Thresholds options was deselected. The code change was made to disable the “both” option when any other definition was selected.</p>	Fix, WBP Apnea, Thresholds
48285	<p>Code change to fix bug not applying changes to maximum sniff volume settings.</p>	Fix, WBP Apnea, Max Sniff Volume
48971	<p>Fixed bug where multiple copies of the task sequence were not getting updated when nebulizer settings changed during acquisition. This is manifested when more than one subject site is utilized, and the customer changed the nebulizer settings during exposure. While the new duration time was being displayed, the nebulizers stopped aerosolization after the original duration had timed out.</p> <p>Bug existed since FP 2.6, and could impact customer’s data negatively, as exposure ends too early.</p> <p>Recommend updating inhalation users to FP 2.9.1</p>	Fix, Inhalation, Nebulizer Settings Changes
48839	<p>Fixed bug where the photometer zero button did not apply new zero correctly</p>	Fix, Inhalation, Photometer Zero
<b>Version 2.9.0 Items listed below this row.</b>		

47331	<p>FinePointe allows users to acquire Metabolism data using a FinePointe WBP Controller and Auxiliary Controller. When configuring the hardware (in FinePointe Control Panel), the user may connect the Gas Analyzer to one of 4 gas analyzer channels controlled by the Auxiliary Controller (along with the MDI Controller). FinePointe software automates switching of the gas analyzer input. When acquiring data using the Gas Challenge phase of Universal Study, FinePointe automatically reserve a site to collect the reference gas sample.</p> <p>Customer will need to add the metabolism site type to activate the module.</p>	Enhancement, WBP, Metabolism
42652	<p>FinePointe interfaces with Panlab Record-It! for video recording and playback. Users will setup within Hardware Configuration; recording will automatically occur when data is acquired from a site with an associated camera. FDP, WBP, Tower and NAM are included.</p> <p>Video playback can is available within FP review, up to 8 cameras supported (Record-It limitation).</p> <p>Recommended camera is part number 275-0204-002, Axis model M1145-L.</p>	Enhancement, Core, Video
47646	<p>The Dosimetry study type allows users to collect a gravimetric sample, prior to starting the experiment. This shall apply only to the dosimetry task sequences that use a nebulizer to deliver the compound (not 'dry' task sequences). During this sampling period, the user will also collect the delivered compound using a filter. When the gravimetric sample is complete, the user will enter the actual weight of compound gathered, and the software will compute a correction factor. The correction factor will be used to compute a new parameter, ConcPortAdj. Computation of AIA will use ConcPortAdj, if it is not a NaN, otherwise it will use ConcPort. The gravimetric sample data is stored within the study. When subsequent recordings are initiated, the user can use a previous result (option available within the Calibration page of Station Launch Wizard).</p>	Enhancement, Inhalation, Gravimetric Factor
46983	<p>FinePointe allows the user to enable an alarm for conditions in which the actual bias flow is not within a user-specified percentage of the bias flow setpoint. The alarm percentage will be selected from the following options: off/10/20/30/40/50%, while the default alarm selection is 20%. The alarm options are displayed within the hardware site configuration display (with 'Normal' and 'During Aerosol' options). Alarm is determined by monitoring the Box Flow signal. This will ensure that alarms are generated if the bias flow is not properly attached to the FinePointe WBP controller.</p> <p>Alarms become enabled after the site is acknowledged. This allows users to load subjects into chambers prior to the acclimation period, without alarms going off. Alarms are triggered when the bias flow stays below the threshold for 5 or more seconds.</p>	Enhancement, Bias Flow Alarms

46725	FinePointe now includes an analyzer called "Spike" to detect spikes in the flow signal within Cough studies. The Spike allows the user to specify two thresholds. The minimum threshold is a value that must be exceeded for the signal to be considered a spike. The maximum threshold is a value that, if exceeded, will cause the signal to be considered noise, and not a spike. Thresholds appear within the Algorithm Settings display. The spike analysis is performed on the filtered flow signal, so that the spike is considered a change from bias flow baseline.	Enhancement, WBP, Cough
46641	FinePointe stops aerosol when AIA for <b>all subjects</b> reaches the target value. Applies only Unrestricted Dosimetry task sequence, with control of humidity. Target AIA can be specified by the user within the task sequence, prior to starting acquisition. Once all subject AIA values reach the target, nebulization shall stop.	Enhancement, Inhalation
46012	User shall be able to create a time course report with the option to select two parameters. The report shall show parameter values, at user-defined intervals, for the duration of the selected measurement(s). The software shall plot both parameters together, with left and right axes representing the individual scales.	Enhancement, Inhalation, 2-Parameters Time Course Report
46503	New parameter addition; Accumulated Dose. Leveraging AIA, FinePointe reports a percentage of the delivered dose retained in the lung, based on a deposition fraction entered by the user.	Enhancement, Inhalation
46267	Photometer scaling selection allowed during acquisition.	Enhancement, Inhalation
45699	Inhalation - Track AIA across recordings. FinePointe allows the user to specify the starting AIA value for each subject when launching acquisition for dosimetry studies. During acquisition, the computed AIA value is added to the starting AIA value specified at launch. The starting AIA value is stored as a subject session property, and the user can modify it using the Change Subject dialog, if needed. Changes to the starting AIA are not applied unless the recording is reanalyzed.  The starting AIA value is defaulted to zero for new subjects. The starting AIA value is defaulted to the last computed AIA value for a subject during an acquisition session. <b>Note</b> that this value may not be identical to the value seen in reports because it may be derived from a rejected breath.	Enhancement, Inhalation
47711	Fixed bug with Aux and gas analyzer where stream data format was not properly initialized, showing A/D units instead of calibrated values	Fix, Inhalation
47701	Fixed bug with wash duration for dosimetry task sequences.	Fix, Inhalation

47642	Fix for issue where bias flow setting was getting overwritten for WBP.	Fix, WBP
46647	Fixed bug that causes reporting error when custom parameters are divided by zero.	Fix, Core
46333	Within FDP, fixed bug in which the Enter key did not implement new values.	Fix, Inhalation
42115	Within WBP, mouse pup settings take effect without creating a new study. Fixed bug in hardware configuration of WBP to update bias flow settings to defaults when species is changed.	Fix, WBP
45610	Added checking for duplicate subject IDs in Station Launch Wizard. A bug in FinePointe allows the user to create two new subjects with the same name.	Fix, Core
14044	Fixed inspiration and expiration ticks display for FDP and Dose Analyzers.	Fix, Inhalation
	<b>Version 2.8.0 Items listed below this row.</b>	
37043	FinePointe can now export the collected waveforms to be analyzed with non-DSI software. The entire signal can be saved to a file, while the user will have the option to select which signals and subjects to export. Exported signals are stored such that all signals for a particular subject's recording are in a single file, named with the subject ID and recording date and time.	Enhancement
44239	Log files size written by FinePointe increased to 2MB.	Enhancement
41309	In all FinePointe site-types, the user is now allowed to select which parameters will be exported. Selection will be available to choose whether all data, or data within measurement intervals will be exported. Users will be able to select options allowing the data to be organized in tabs by subject ID/analyzer. All these options were previously done manually after data was reported to excel.	Enhancement
44636	FinePointe inhalation tower systems now allow users to run their study by setting a tower humidity level for which the system will regulate the environment in real-time. This feature only works when systems are utilizing the Aerogen nebulizer and target humidity levels are maxed out at 705 RH.	Enhancement

44836	FinePointe inhalation tower systems now allow automatic plethysmograph calibration of <b>all</b> chambers in the system, regardless of count. Previously, automatic calibration only supported the chambers connected to the main controller (up to 4 sites). This feature supports all inhalation tower hardware versions. <b>Of note, in order to use this new feature, the main controller firmware must be updated to the latest version.</b>	Enhancement
45276	The assisted setup feature in dosimetry (inhalation tower) can now support multiple Auxiliary Controllers.	Enhancement
45990	In legacy dosimetry site-type, added NHP species to be used with Biaera systems	Enhancement
46391	Added support for rabbit and ferret using the FinePointe Whole Body Plethysmography Controller (FPWBP). When utilizing this configuration, flow rate per site is maxed out at 2.5LPM and effective range checking during calibration isn't performed.	Enhancement
46235	In PFT site-type, PF and FV loop report export to excel didn't open excel. Issue resolved as excel program is now visible after exporting PV and FV loop reports.	Fix
46104	Acquisition with many subjects may cause real-time analysis to fall behind such that signals lag, or don't appear at all. The issue was resolved by buffering them prior to writing.	Fix
45898	In dosimetry site-type, entering a negative pressure value in the manual setup was problematic, as the "-" character had to be entered after entering the digits. Issue resolved by adding a DecimalConverter.	Fix
45292	At very high respiratory rate, the concentration value on the dosimetry site-type displayed inaccurate values. Issue resolved by holding the last sampled concentration for up to 2 seconds for these cases.	Fix
46366	An exception error was displayed when creating and deleting a new folder using the right-click option. Issue resolved.	Fix
46520	A NaN (no value) character longer causes an import process to fail.	Fix
37611	Increased viable characters in the subject weight field from 3 to 5 in order to avoid unexpected errors with rodents weighing >1000 grams.	Fix
43231	The automatic calibration process is cancelled by clicking the cancel button twice. Previously, an error message would be displayed if the calibration was cancelled mid-process.	<b>Fix</b>

	<b>Version 2.7.0 Items listed below this row.</b>	
37680 (a)	Derived parameter alarm - Allows the user to define alarm conditions per derived parameter using low and high alarm limits. When the derived data goes above or below the defined alarm limits, an alarm will be triggered. During Acquisitions, a triggered alarm will generate an audible standard Windows alarm sound. In Acquisition and Review, a triggered alarm will be indicated in the Derived Parameter Table by updating the offending data cell's background color to red. When exporting derived data from FinePointe Review, an Alarm column will be included with an asterisk in the row of the parameter to indicate an offending data.	New Feature
37680 (b)	Derived parameter sorting - Review shall allow the user to sort the rows within the table, in ascending or descending order. An up/down caret within the derived parameter header shall indicate ascending or descending order.	New Feature
38589	Dosimetry – Assisted Setup – FinePointe can now assign proper flow rate values depending on the hardware configuration in-order to maintain targeted inhalation tower environment. This important feature alleviates manual flow management, by having the user enter the hardware items configured with the system.	New Feature
38930	WBP Mouse Pup – When creating a new WBP study for Mouse Pup, the default analyzer profile shall be Epstein.	Enhancement
41655	Dosimetry – Equilibrium Monitoring – Users can now define aerosol equilibrium (t99) conditions and tolerances, while the software will display current and time-based concentrations conditions, and alert when target equilibrium is reached. At that point, and if available, the user can choose to expose the animals to that steady, proper aerosol exposure	New Feature
42675	Dosimetry – User Defined Solenoid Sequencing – To complement the release of the MDI (Metered Dose Inhaler) Aerosol Generator, a new feature in FinePointe allows the user to define a solenoid sequence to achieve various goals. While specifically designed to run custom MDI actuations, the software/hardware is generic enough to satisfy many other unique applications	New Feature
43588	Cough and Apnea Analysis – The following parameters shall always be displayed as a numeric value, with a default to zero: CCnt (cough count), Nsigh, Napnea, Napnea0, Napnea1, Napnea2. Previously if there were no such events detected within a logging period the value displayed in the tabular derived data table for that specific parameter was a “blank”.	Enhancement

43845	Rejected Breaths Utility - Allow users to synchronize table, historical signal chart, or trend chart from any rejection notification. The dialog shall allow users to directly interact with the main FinePointe window (modeless dialog).	Enhancement
43976	Apnea Analysis: An option has been added to allow for a combined threshold for Apnea definition. Previously the user could define an apnea by either an absolute breath duration threshold "or" a percent increase in duration from a normalized breath duration threshold.	Enhancement
44008	Cough Analysis - Previously the Cough analysis function could only be selected for Mouse and Guinea Pig. Based on customer requests the selection for Rat is now also available.	Enhancement
44071	Install Utility – FinePointe Setup shall include instructions to the user to consult the Installation Instructions regarding the need to upgrade all databases after upgrading the version of FinePointe. This is intended to help to prevent Technical Support calls from users who can't locate their studies after upgrading due to study database schema changes which prevent older format database from being displayed in the Study folder.	Enhancement
44160	Version Number updates for all displays - FinePointe shall display version number 2.7.0.XXXX, where XXXX is the build number, on the status bar for all application displays. FinePointe Setup shall display version 2.7.0 within the installation wizard.	Enhancement
43415	Units for custom expressions not shown in reports – When a new parameter was created using the Expression Builder function, the units assigned to that parameter were not displayed on the axis.	Fix
43437	Error with Calibration Audit Trail – Upon a successful calibration of all channels of a WBP system, the audit trail only displayed information related to Site 1. Details related to any addition sites were not listed.	Fix
43438	Error with calibration status indicators on Calibration dialog - When the 'Calibrate All' function was executed, and a chamber was not connected t Site 1, and all other Sites successfully passed calibration, the site 1 indicator would also turn green.	Fix
43734	Dosimetry: Export of Dosimetry Report to Excel doesn't appear. Fixed in FP 2.7	Fix



43817	Error with reports related to derived parameters that indicate a count or accumulator. Example: within the Cough analysis if a subject has zero coughs in a logging period, the value of "0" was not reported for "CCnt", rather no entry was made, and the field remained blank. Other such parameters include: (Nsigh, Napnea, Napnea0, Napnea1, Napnea2)	Fix
43946	Dosimetry: Tower App Photometer selection not assigned. Fixed in FP 2.7	Fix
44359	Dosimetry: Nebulizer capacity incorrect when calibration 'unknown'. Fixed in FP 2.7 by popping a warning message displaying "nebulizer is not calibrated" and disabling the check-boxes for uncalibrated nebulizers.	Fix
44360	Dosimetry: Changing settings during study causes crash error if no nebulizers selected. Fixed in FP 2.7	Fix
44379	Dosimetry: nebulizer settings not updated in study when changed during acquisition. Fixed in FP 2.7	Fix
44477	Review: Analyzer messages for breath rejection display had poor performance with long recordings. The display of those messages could be extremely slow when working with long data collections e.g. 24 hours. In such cases there could be over 500,000 messages. The dialog type was modified to use a virtual list with caching which greatly improves performance.	Fix
44654	Dosimetry: Uncheck Nebulizer during acquisition does not stop the nebulizer from nebulizing. Fixed in FP 2.7	Fix
44666	Error related to the export of a Cough report to Excel – An error existed which prevented the export of a Cough report to Excel.	Fix
44693	Error related to Status Message History display timestamps – An error existed which causes inconsistent timestamps within the Status Message History dialog when using Time Activity studies for WBP in Review the review mode.	Fix
44701	Exporting "Status Messages History" in review mode – When working with very long data sets e.g. 24 hours, there could be over several hundred thousand reject messages to be exported. It could take several hours to export those messages to Excel. The user will now be presented with a Warning Message if the exported time is determined to be excessive, in order to warn the user before continuing.	Fix
	<b>Version 2.6.0 Items listed below this row.</b>	

38531	NAM chamber type selection - NAM chamber specific "K Values" which are used by the system during calibration to calculate the chambers Time Constant, now reside in the XML file. This allows the user to select the chamber type by model number for a specific species. The time constant information for the chamber selected will automatically be loading in the analysis software. This allows different chamber designs for the same species (e.g. legacy versions of chambers) to be selected. Previously only the most current chamber design for a specific species was supported.	Enhancement
40325	Dosimetry - Add ability to run multiple nebulizers for Tower/Dosimetry – the user can now connect up to 3 nebulizers to a single tower and run them as though they are generator. The software allows individual calibration and utilizing the user defined volume and duration, calculates each nebulizers duty cycle such that constant aerosol is provided from connected nebulizers.	New Feature
41273	Dosimetry - Display remaining nebulization time in FinePointe Station for Dosimetry – done as part of protocol assignment.	Enhancement
41552	Dosimetry - Higher Flow rate support for stackable tower – leveraging new Mass Flow Controller, user is able to select regulated flow rate of up to 40 SLPM utilizing external gas sources.	New Feature

41563	<p>Improved Rejected Breath evaluation criteria:</p> <p>Enhanced Graphical Presentation - An option has been added to display multiple graphical presentations of the physiological signals being analyzed during the Review process. Previously the only signal presentation graphically displayed was an un-filtered version of the acquired signal. The signal analysis algorithms create multiple versions of the acquired signal with different filtering techniques to aid in the analysis process. The filtered signals will have different morphologies due to the filtering being applied. Giving the user the option of displaying both the filtered and un-filter versions of the signal will provide a better understanding of why certain breaths are marked as “Rejected Breaths”. Note: This will only be available for data collected on V2.6.0.</p> <p>Enhanced Log File – The Rejected Breath log file that was introduced in version 2.5 has been enhanced to include:</p> <ul style="list-style-type: none"> <li>• Elapsed time of rejected breath</li> <li>• Reason for breath rejection</li> <li>• Parameter value that triggered rejection (out of limit value)</li> <li>• Lowest acceptable value of parameter causing rejection*</li> <li>• Highest acceptable value of parameter causing rejection*</li> </ul> <p>Note: Not all parameters have a constant low and high acceptable value (example: Ti rejection uses the criteria that Ti should be less than <math>2 * Te</math>). In these situations, the Low and High acceptable values will not be displayed.</p> <p>The Rejected breath log can be copied to the clip board or Exported.</p> <p>Both of the above Enhancements will be beneficial when working with Technical Support to adjust XLM file-based algorithm attributes to reduce the number of Rejected breaths within a dataset.</p> <p>Please note upgrading to V2.6.0 is not necessary to take advantage of the “Enhanced Log File” feature as your Study can be sent to Technical Support to be reviewed with V2.6.0.</p>	Enhancement
43038	<p>Study icon detail in mouse-over text – The detail presented in the FinePointe homepage mouse-over text for Study icons has been enhancement to include “Study Type name”.</p>	Enhancement
43044	<p>MS Excel status performance issue – Improvement have been made to how FinePointe tracks the status of MS Excel which translates into a quicker response time when accessing features that utilize MS Excel such as loading Studies.</p>	Enhancement

43032	Human as a selectable species - Human is not a supported species on the current version of FinePointe and could cause an exception to occur when selected. The ability to select "Human" has been removed.	Fix
42656	Dosimetry - QT doesn't apply settings for InFlow and Pressure – bug found in FP2.5 and fixed in this release. Only effects system utilizing tower systems with QT.	Fix
42840	WBP Cough Study error – When used for Cough studies the WBP analysis was not utilizing the subjects body temperature, rather a value of 0 was being used by the analysis which caused the subjects compensation factor to be negative. A negative compensation factor translates into a negative tidal volume being calculated and therefore all breaths were being rejected by the analysis.	Fix
43037	Study Archive progress bar error – Under certain conditions the progress bar indicated a successful archive was completed when the archive process had actually failed. The conditions to cause this issue were: select Archive a Study from the FinePointe Control Panel with the "Delete Study" check box enabled, while the Study to be archived was open in FinePointe Review. The system will now return an error stating that the Study is open and cannot be archived.	Fix
43042	Dosimetry - Calibrate Nebulizer during launch acquisition: When error popup after clicking the Calibrate button the Nebulizer calibration will still be displayed – current calibration procedure added to FP for all nebulizer connected to system, (up to 4)	Fix
43054	Dosimetry - During acquisition Humidity Settings not retaining values set	Fix
43066	Antagonist Study error checking - The tool tips indicating a value was entered that was over the allowable range, within the "Before Introduction" and "After Introduction" text fields, were not being displayed when the user accessed the menu through the use of the "Back" key located at the bottom of the dialog.	Fix
43067	Dose Response Study error - When using the Dose Response study type to create a study with multiple Phases, an error could occur creating multiple Phases with identical names which could not be edited to make them unique. Upon clicking Next, the system would generate an error warning that duplicate dose names exist. Note: It is recommended to use the Universal Study to create Dose Response type studies. The Universal Study offers more flexibility than the legacy Dose Response selection.	Fix
43088	QT: FinePointe runs nebulizer at 100% during acquisition	Fix

43140	NAM hardware configuration within Control Panel – When using Finepointe with a version of MS Windows® that utilizes a comma “,” instead of a decimal point “.” as decimal separator (known as a culture setting e.g. European version) the user would not be able to enter the correct values in the Thoracic Bias Flow Rate field. The error has been corrected.	Fix
	<b>Version 2.5.0 Items listed below this row.</b>	
36035	Store information generated for rejected breaths - During the original analysis and subsequent re-analysis of waveform data the user can view a list of Rejected breath details. The information describes the reason a breath was rejected for analysis and the associated elapsed time. In previous versions of FinePointe the Rejected Breath details did not persist after analysis was completed. The Rejected breath details are saved to the Study and can be copied to the Clip Board. The Rejected Breath details are beneficial when working with Technical Support to adjust algorithm attributes to reduce the number of Rejected breaths within a dataset.	New Feature
36787	Whole Body Plethysmography body temperatures – The user can now specify body temperature per subject for the original acquisition and subsequent re-analysis. Body temperature is referenced by the WBP algorithm therefore having a subject specific temperature reference can improve data accuracy.	New Feature
37062	Buxco Mouse Pup chamber compatibility - The 2 and 4 Site FinePointe Whole Body Plethysmography controllers now have support for the Buxco Mouse Pup chamber. Previously the mouse pup chamber was only supported by the QT1001 Digital Amplifier.	New Feature
39795	QT1001 Nebulizer Calibration - Customers using the QT1001 Digital Amplifier can now calibrate the Aeroneb nebulizer. This is done by using a known volume of liquid dispensed over a specified period of time to determine the nebulizers efficiency. The calibration data is saved by the software and used to improve nebulizer delivery accuracy. The nebulizers efficiency can degrade over time therefore regular calibration can improve experimental consistency by compensating for nebulizer efficiency changes.	New Feature
40657	FinePointe V2.5.0 upgrade image without MS SQL Server – An image has been created and posted on the DSI website for download. The image posted does not include MS SQL components and therefore should only be used for upgrading from an existing version of FinePointe that would already have MS SQL Server installed.	New Feature

35740	Dosimetry – Integration of Buxco Tower Utility functionality into FinePointe software for Dosimetry studies. When launching a Dosimetry study, the user now can adjust Tower controller settings such as Tower Pressure and Air Flows.	New Feature
38590	Dosimetry – Support has been added for O <sup>2</sup> /CO <sup>2</sup> measurements. Additional hardware required.	New Feature
40893	Dosimetry – Added user definable Tower condition alarms for Inflow, Pressure, and Supplemental Flows.	New Feature
40491	Dosimetry – Support has been added for the Auxiliary Tower Controller.	New Feature
41279	Dosimetry - Time Course reports are now supported by Dosimetry studies.	New Feature
41305	Dosimetry - The user will now have the ability to define a Dosimetry study as either a Dry or Liquid aerosol. In the case of a dry aerosol the user will be able to control the nebulizer settings during acquisition to adjust the tower's humidity.	New Feature
41459	Dosimetry - The user will now be able to define multi-phase Dosimetry studies.	New Feature
36786	Improved export subject data capabilities - The user can now filter derived data to be exported to MS Excel by: subject, analysis set, and analyzer type. The user can also include/exclude event information. This enhancement can greatly reduce the file size, decreasing export time and reducing post export data editing in Excel.	Enhancement
37492	Calibration dialog modification - FinePointe shall display effective range warnings when the Calibration summary is first displayed. Previously the warning immediately followed the calibration of a site but was not retained after closing the dialog. The warning will not be displayed if the site has never been calibrated.	Enhancement
41458	Report Graphs – Units for derived parameters have been added to report graph axes.	Enhancement
37608	Dosimetry – an additional selection of 250,000 mg/m <sup>3</sup> will now be displayed for the photometer range within the Control Panel settings.	Enhancement
40326	Dosimetry – Implementation of effective range limits for calibration of Plethysmograph chambers base on selection of species.	Enhancement
40561	Dosimetry – Additional dosimetry derived parameters have been added and existing parameters have been renamed to application specific descriptions.	Enhancement

40933	Dosimetry – Changes to Control Panel dialogs for QT1001, Auxiliary Controller, and Tower Controller hardware to more clearly articulate Inhalation applications.	Enhancement
41274	Dosimetry – Changes to the Dosimetry dialog for improved definition of Task sequences: <ul style="list-style-type: none"> <li>• Allow nebulization time to be defined in HH:MM:SS</li> <li>• The exposure time (measurement duration) will start at the same time as nebulization</li> <li>• Nebulization time can be specified to have a duration shorter than the exposure time.</li> </ul>	Enhancement
37457	Calibration error display prioritization - FinePointe shall prioritize the display of calibration errors over the display of effective range errors. This change applies to WBP, NAM, and Inhalation Tower. Previously the effective range error/warning would overwrite other errors which are deemed to be more important.	Fix
33649	FinePointe will allow one analysis set per recording to persist through reanalysis. The user has the option to select one of three options: <i>Most Recent, Original, or Manual Selection</i> . The system default is <i>Most Recent</i> . The setting can be modified from within the “Include/Exclude Report Analyses” dialog. Previously when using <i>Manual Selection</i> , the user could accidentally select multiple Analysis sets which would then be averaged together.	Fix
37593	Environmental Data dialog – The Environmental Data dialog was removed from all site types except PFT. Previously the Environmental Data dialog was displayed for all site types from within the Launch Station wizard, but the environmental data was only used for the PFT site type.	Fix
39099	WBP Mouse Pup calibrator volume change - the default value has been changes to 2.9ml to reflect to volume of the released version of the WBP Mouse Pup calibrator.	Fix
39321	NAM Hartley Guinea Pig chamber Time Constants - The Nasal and Thoracic time constants have been updated to reflect values for the new Hartley Guinea Pig chamber. New values are as follows: Nasal 1989 / Thoracic 2169  <b>Note: If you are using the legacy Buxco Guinea Pig chamber please contact Technical Support. The standard build of V2.5.0 will not be compatible with the legacy Buxco Guinea Pig chamber.</b>	Fix

40328	Large animal WBP volume calibration - A change was made to define the default volume calibration to 50mL for both Dog and Cat. Previously the Dog default was 20mL.	Fix
40507	NAM Rat chamber calibration effective range change - The effective range calibration limits for Rat NAM chambers have been updated to the following: 370 to 554 for passing calibrations / 333 to 370 for posting a warning.	Fix
41641	WBP Mouse chamber effective range change - The effective range calibration "upper limit for passing" has been changes from a value of 210 to 230. This was done due to a value of 210 being deemed to be too restrictive.	Fix
35511	Error when creating a new study from an existing study - An exception could occur when creating a new study from an existing study under certain circumstances. This issue has been corrected.	Fix
38793	Calibration data not saved - When calibrating a WBP 2 or 4 site controller from within FinePointe software the calibration data was not written to controllers non-volatile RAM. This issue has been corrected.	Fix
38931	Drop down list option error - When using Mouse as a species for WBP studies, Mouse Pup options are available in drop down dialogs. The software has been updated to remove references to Mouse Pups when Mouse has been selected as the species.	Fix
39890	Error saving new data entered in the Environmental Data dialog – If the Environmental Data dialog is opened in Review and values are updated and then the dialog is closed, and then opened again immediately, the data is not saved. This issue has been corrected.	Fix
41390	Include/Exclude Report Analyses error - An exception can occur in Review mode if a newly reanalyzed recording is excluded from Reporting using the "Include/Exclude Report Analyses" dialog. This issue has been corrected.	Fix
35771	Dosimetry – The Calibrate plethysmography chamber button was located in a position that was easy to misinterpret its use and has been relocated.	Fix
41648	Dosimetry - When modifying the Task sequence for an existing Dosimetry study the user could add a second "Baseline" phase which should not be allowed. This issue has been corrected.	Fix



38618	Dosimetry - The Wash Nebulizer button on the calibration page did not work when configuring a Dosimetry study. This issue has been corrected.	Fix
40324	Dosimetry - The Calibrate controller icon on the calibration page did not work when configuring a Dosimetry study. This icon cannot currently be support by the Inhalation Tower controller and has been removed from the dialog.	Fix
41289	Dosimetry - When executing a Dosimetry study Task Sequence, it was possible to delivery multiple nebulizer doses to the Inhalation tower by using the individual site acknowledge buttons. This issue has been corrected.	Fix
	<b>Version 2.4.6 items listed below this row.</b>	
29489	<p>Added support for automated apnea detection allowing users to locate the following breathing patterns:</p> <ul style="list-style-type: none"> <li>• Apnea</li> <li>• Sigh</li> <li>• Sniff</li> <li>• Erratic Breathing</li> </ul> <p>User may further classify apneas as apnea without sigh, apnea immediately following a sigh (adjacent to sigh), or apnea within a user-defined timeframe of a sigh.</p> <p>Reports may then be created based on the number of occurrences, durations, distribution, and group means and statics.</p> <p>This feature is a licensed option. Contact your DSI Account Manager for details.</p>	New Feature
24060	<p>Added the Universal Study type to allow users the ability to create different phases for various purposes and greater configurability over the automation performed during acquisition.</p> <p>Universal Study allows the user to create a study with multiple phases. These phases may be ordered per user preference.</p> <p>The available phase types shall include:</p> <ul style="list-style-type: none"> <li>• Dose Response</li> <li>• Gas Challenge</li> <li>• Toxicity</li> <li>• Antagonist</li> </ul>	New Feature

29490	Added support for communication with Biaera AeroMP to Legacy Dosimetry studies. The support will enable the user to specify network addresses for FinePointe and AeroMP to communicate through TCP. The communication will allow FinePointe to notify AeroMP about the current accumulated tidal volumes and to receive event information from AeroMP about aerosol exposure activity for data annotation.	New Feature
24086	Added a Parameter Summary report which produces results and statistics for multiple parameters all for a single measurement.	New Feature
24084	Added the ability to allow users to mass export all reports within a given study to Microsoft Excel.	Enhancement
25934	Previously, the Time of Brake (TB) and Time of Pause (TP) parameters computed on WBP Airway Hyper-reactivity (AHR) were not available on WBP temperature and humidity (Volume). Similarly, the End Expiratory Pause (EEP) and End Inspiratory Pause (EIP) parameters computed on WBP temperature and humidity (Volume) were not available on WBP AHR.  This has been updated to make the available parameters consistent between the two WBP study types.	Enhancement
31720	Improvements were made to the analysis of the Functional Reserve Capacity (FRC) test data to provide significantly improved volume drift correction.	Enhancement
32549	Microsoft SQL server was updated to SQL Server 2014 Standard Edition (with Service Pack 2). If a previous version of SQL is already installed on the computer, it is recommended to install the Client and Server installation option (without SQL Server). Please see the installation guide for information on upgrading the current SQL server installed on the PC to SQL 2014 Standard Edition, if desired.	Enhancement
32676	Added support for 64-bit Windows 10.	Enhancement
32943/3443 1	Added the requirement of an authorship signature when stopping the acquisition of a GLP study. The user will now be prompted for the signature upon stopping the acquisition session.	Enhancement
32944	Added the following display fields to the FinePointe Station status bar: <ul style="list-style-type: none"> <li>• Controller Server</li> <li>• Current User</li> <li>• Software Version</li> </ul>	Enhancement

32945	<p>When running an acquisition, FinePointe Station (acquisition) can be detached in order to open and review data from other studies, while continuing to acquire data. Once review is complete, the user can regain control of Station (acquisition) to complete additional acquisition tasks. This functionality is also available when running a GLP study.</p> <p>Original implementation did not require a user authentication to regain control of Station. This has been updated to require an authentication upon requesting control of Station (acquisition).</p>	Enhancement
33161	Updated WBP to start the Bias Flow upon launching FinePointe Station based on the user-defined Bias Flow mode (push/pull) specification made upon configuration of the Study Type.	Enhancement
34500	Added the Peak Expiratory Flow Ratio (Rpef) parameter RC site time. Rpef is the time to Peak Expiratory Flow (PEF) from the start of expiration divided by the Expiratory Time (Te).	Enhancement
34985	<p>Added the ability for FinePointe to compute the Time Constant for the WBP and NAM chambers for the following species.</p> <p>Mouse, Mouse Pup, Rat, Guinea Pig, Rabbit, and Ferret.</p>	Enhancement
35009	Changed the time alignment method from the time of re-analysis to Time Zero when logging derived data to the Derived List View (spreadsheet) using the time-based logging method.	Enhancement
35323	Added the Ferret species to the PFT site type.	Enhancement
35844	Added the ability for the user to specify an Aerosol Volume and Aerosol Duration when using the Asthma study type.	Enhancement
35847	Added the Cough site type to the WBP Asthma and COPD study types.	Enhancement
36010	Update the Measurement heading labels for the WBP Asthma and COPD study types to Phase since these study types only have one measurement per phase.	Enhancement
36294	Added species type Mouse Pup to the FinePointe WBP apparatuses.	Enhancement
36507	Once a study has been configured to follow GLP, it may no longer be changed to not follow GLP.	Enhancement
36590	Added a Review only installation option to allow users to review, reanalyze, and report on previously collected recordings from a secondary computer.	Enhancement

37469	Added reporting of lost data samples during NAM calibration. Should data samples be lost, due to USB traffic interference, the user will be notified to recalibrate the apparatus.	Enhancement
37476	Added reporting of lost data samples during WBP calibration. Should data samples be lost, due to USB traffic interference, the user will be notified to recalibrate the apparatus.	Enhancement
37721	Added WBP support for swine when using the QT1000 apparatus.	Enhancement
37722	Improved the performance for the ferret WBP algorithm to increase the number of detected breaths.	Enhancement
28091	Some systems experienced poor disk performance during data acquisition as a result of sub-optimal Microsoft Windows disk driver properties.  This has been corrected.	Fix
32946	The FinePointe Create Signature dialog was updated to contain the following text:  “In conformance with 21 CFR Part 11, Section 11.3(b)(7), execution of an electronic signature to an electronic record by an individual is the legally binding equivalent of the individual's handwritten signature.”	N/A
32975	When operating a GLP study, a Contributing Specialist was able to author a recording.  This has been corrected to not allow authorship from a Contributing Specialist.	Fix
34618	Fix for the Recording Source name list containing incorrect Source Name information when using different site types for disparate acquisitions.	Fix
36412	When operating a GLP study, a Technician was able to select the Edit Study button.  This has been corrected to no longer permit the Technician role from having this ability.	Fix
36949	Added the analysis rejection comment to the audit log.	Fix
37596	Fix to correctly display the last calibration date with calibration data for the 4-Site NAM controller.	Fix

## Known Issues

The following are a list of known issues and possible workarounds for FinePointe v2.4.6.

Reference #	Description	Workaround	Module(s) Affected
33268	When using the Detail view during acquisition, changing the displayed subject to another available subject does not update the main graph window title to reflect the new subject being displayed. This issue only affects the graph page title bar.	To update the title bar to display the appropriate subject, the user must choose the subject to be displayed and then toggle off and on selected subject.	Station
33294	When using the Universal study with an Antagonist phase, the user is able to put the phase in a conflicting state by enabling the "Administer Challenges Manually" and "Change ► Button to Mark Antagonist" checkboxes.	Ensure only the appropriate check box is enabled within the setup wizard.	Universal Study
32404	When using the integrated Biaera AeroMP feature, all species defined in the hardware configuration need to be the same. If different species are configured, an error message will popup stating, "All species need to be the same." However, the user can click Ok, and continue with their setup, without being required to fix the species selection. This will result in the user being unable to complete the hardware configuration until the species are consistent across site.	Ensure all sites have the same species defined when creating a new hardware configuration.	Biaera

Reference #	Description	Workaround	Module(s) Affected
32409	When configuring the TCP Listening Port for use with Biaera AeroMP software, the user may enter an incorrect port number and still be permitted to finish and close the hardware configuration wizard.	Ensure TCP ports are defined appropriately. Check to ensure the red validation boxes are not visible around the TCP Listening Port entry box.  If using more than one Biaera AeroMP, ensure each site users a different listening port.	Biaera
32509	If a study is deleted from FinePointe immediately after it has been opened, the study will be removed from the FinePointe Study list, but will not be deleted from the SQL Server database.	Wait at least 5 seconds after the Study is closed prior to deleting the Study. If this pause is insufficient, SQL Server Management Studio may be used to delete the study database.	Review
32964	When attempting to Save License Details to the Desktop while logged in as a Windows User (non-administrator), the LicenseDetails.xml cannot be found on the Desktop.	The file is being written, but to the desktop for the Windows Administrator who logged into the Control Panel.  The work-around is to choose one of the other options for copying the license details (clipboard, Excel), or log off of the User account in Windows and log into Administrator account.	Control Panel