# MFI<sup>TM</sup> View System Software (MVSS) Release Notes

## Contents

## Release History

### Release 5.1.1.104
July, 2019

**Improvements and Fixes**

- Fixed issue where "Samples" liquid location keyword was marked as invalid in the Batch Management UI (17069, 14141)
- Fixed issue with 'Termination Type' selection box in the Analysis Setup window. The available selections were compressed and not clearly visible to the user (16896)
- Fixed application crash issue in version 5.1.0 when user clicks on the Method Details button in the Analyze a Sample interface (17268, 17274)
- Fixed issue with vertical scroll bar not displaying properly in the User Groups and User Accounts display when a high number (> 50) of User or Group accounts are active in the system (17103)
- Fixed application crash issue when using diagnostic TestCamera utility (17261)
- Fixed issue with particle thumbnails not appearing in certain reports (17449)

**Known Issues**

- Assigned permissions for Users and Groups do not display properly when the user selects the File->Print Preview option in MVSS (17300)
- Errors in existing Batch operations are not shown until the operation is modified by the user. Batches with errors will still be prevented from running. (16313)

- Report only methods that include particle statistics and images may not display the correct images (17472)

## *Release 5.1.0.76*
December, 2018

### **Features**
- Compatibility with Windows 10 64-bit operating system (16525)
- Automatic archiving for project repository data (15742)
- Ability to export multiple MVSS reports from project samples (16128)

### **Improvements and Fixes**
- Method overall filter needs to be applied to particle thumbnails during sample acquisition. In certain cases, MVSS report can have a discrepancy between the particles reported in the Particle Statistics Summary and what is shown in the particle thumbnails section of the Sample Analysis Summary section of the report (16559)

### **Known Issues**
- Errors in existing Batch operations are not shown until the operation is modified by the user. Batches with errors will still be prevented from running. (16313)
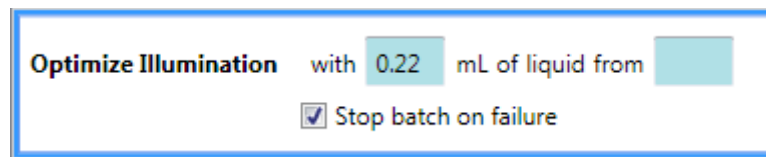
## Features
- MFI Image Analysis integration
  - MVSS will detect and allow launching MFI Image Analysis software in compliant mode
  - License status displayed in MVSS menu

## Improvements and Fixes
- Lower computer resource demands during batch operations.  In certain cases, the software application would display a 'Server Busy' dialog during batch operations, which would lock up the application and cause it to become unresponsive (13868, 9350, 6913)
    * This change affects the file format of the batch files that are used to execute runs with the Bot.  Batch files imported into or created in MVSS 5.0 will not be backwards compatible with previous versions of MVSS.
- Reduce overall memory footprint for application, improving application stability.  In certain cases, the software application would display a dialog stating 'The application will now close' during batch operations, which would lock up the application and cause it to become unresponsive (13536, 7222, 7256)


- Improved Optimize Illumination failure options and behavior (8067, 8057, 7811)
    * The optimize illumination step now contains an option to "Stop batch on failure". If checked and a sample fails optimize illumination, the batch will stop immediately.  Note that this is the behavior that has been in place with previous versions of MVSS.  If unchecked and a sample fails optimize illumination, the batch will move to the next sample.



- Fixed sampling efficiency with methods that output a time resolved mode chart (6657)
- Disable regular users after three failed login attempts (9034)

September, 2016

## Features

### Multi-Sample Analysis optimization
- Application memory usage has been optimized to allow loading many large projects at the same time without running out of RAM. Previous versions of MSA would "hang" when loading up many large projects that required more RAM than present on the physical machine.
- Analysis with MSA can leverage multiple CPU cores during analysis calculations to speed up time consuming operations

## Improvements and Fixes

### MVSS
- We have significantly improved the way in which the software detects the liquid surface in each sample well. This, combined with a hardware upgrade to the pipette, will greatly reduce the instances where the Bot fails to detect liquid presence.
- We have improved coordination between our MVSS software and the Bot in order to reduce the frequency of system errors, which in rare cases cause the system to stop mid-batch.
- The Bot will now reestablish the home position for the X, Y, and Z axes more frequently, and this may help to reduce the instances of position-related errors in the Bot autosampler.
- After three failed logins, users should be blocked from logging in. Re-activating the user account requires an Administrator (9034)
- MSA filter with Time property fails analysis on CSV projects (8142)
- Batch can stall when commanding small moves to the Bot1 autosampler and is already in the desired target position (8099)

### Pipette
- The pipette firmware has been improved to better maintain positional accuracy when the pipette is near its end of stroke. We have seen this greatly reduce or eliminate the occurrence of dropped pipette tips from over-travel of the pipette piston.
- We have replaced the electrical contacts between the pipette and conductive pipette tips with gold plated contacts, and this improves the reliability of the pipette detecting the surface of the liquid in each sample well
- Added Pipettor Cycles, serial number, and reset functionality in Bot1 Configuration (8443)

## Known Issues
- Memory constrained execution of MVSS can cause problems with unpatched .NET CLR runtimes while writing files to disk during analysis (7225)
- MVSS has a small chance of stalling during certain batch operations that display a live preview of the flow cell (9350)

### *Release 2-R4.1.1.41*
February, 2016

**Issues Addressed**
- Images from failed optimize illuminations after a baseline, or within a repeat operation, are viewable (6832)
- Calibration Log is updated after successful optimize illumination operations, with proper flow cell model (7514, 7681)


### *Release 2-R4.1.0.40*
July, 2015

**Features**
- Added new Multi-Sample Analysis features:
  - PDF Export
  - Export and Import of filters created in Multi-Sample Analysis
- Bot1 Refillable reservoir support – infinite volume option for reservoir labware
- Images from failed Optimize Illumination operations are saved for later review

**Issues Addressed**
- Lowered memory usage with time, necessary for very long batches
- Greater sampling efficiency
- Matching of filter used in MVSS report-only method and Multi-Sample Analysis
  - Careful inspection to confirm results of filters generated by both methods
- Improved the robustness of MVSS at runtime
- Corrected a number of visual user interface problems

### *Release 2-R4.0.0.39*
August, 2014

**Features**
- Added Multi-Sample Analysis feature
  - Allows a user to quickly compare multiple projects from the repository, or imported CSV files from MVAS
  - Data filters offer more flexibility in how they are defined
- Added the Repeat operation to batch operations menu
  - Allows a user to repeat a series of steps for a group of samples
  - Dramatically reduces the number of operations required to set up a Bot1 protocol
- Added new controls to 21 CFR Part 11 for user and groups
  - Controls access to multi-sample analysis menu and ability to create classification filters

**Issues Addressed**
- Improved the resiliency of repository data
- Fixed some small user interface problems within Batch Management
- New folders in the repository are now created in a more intuitive way

### *Release 2-R3.3.2.38*
June, 2014

**Issues Addressed**
- Ensures ability to view reports immediately after sample analysis
- Improvements to batch protocol interface: fixed an issue where blank parameters in batch operations prevented execution of batch protocol.

### *Release 2-R3.3.1.37*
April, 2014

**Issues Addressed**
- Improved the resiliency of the repository's file naming conventions.
  - Ensures import of earlier versions of project files from v3.1 and higher
- This version of MVSS software is also compatible with DPA 4100 and 4200 systems.
  - Sales discontinuation of DPA 4100 and 4200 systems in effect as of March 2014.  Features added in software releases after v3.3.1 will only be supported for MFI5100 and MFI5200 instruments.

### *Release 2-R3.3.0.36*
January, 2014

## Overview

This section is intended to educate users regarding the details of the specific MVSS release, v3.3.0. The latest release supports the use of MVSS software on both MFI 5100 and 5200 systems, as well as DPA 4100 and 4200 systems.  All MFI 5000 systems can simultaneously export and delete batch protocols and methods.  MFI 5000 systems with a Bot1 installed will benefit from the improvements to the Bot1 batch protocol interface that reduces steps needed to create batch protocols.  Renaming users and groups is now available in this version.  Remaining fixes addressed other errors that were noted by customers or field support. **For guidance on upgrading to this version, please refer to information in the FAQ section, under "How do I upgrade my software version to this new release?"**

**Features**

- Added Exporting, Importing, and Deleting Batches and Methods
- Batch Management interface improvements
  - Liquids are displayed and configured in the module area
  - Drag and drop liquid locations, Operations list rearrange
  - Buttons to quickly add operations

**Issues Addressed**

- Corrected some problems with Report-only analysis types (on export and viewing)
- Fixed an issue with renaming users and groups
- Cleaned up some odd behavior in the Create Method wizard and Sample Analysis dialog
- Many small user interface problems were corrected
- Fixed an issue with the stage Home position not being saved

### *Release 2-R3.2.3.35*
October, 2013

**Issues Addressed**

- Corrected a root folder problem with projects
- Corrected a Bot1 disconnect issue
- Prevent Admin account from being disabled
- Corrected an issue where Bot1 Grab Tip Retry settings weren't being followed
- Corrected some problems with connecting to 4K instruments
- Added 5ml Vial support for Bot1

### *Release 2-R3.2.1.33*
July, 2013

**Issues Addressed**

- Improve the resiliency of the liquid detection operations of the Bot1.
- Removal of third party component for repository hiding.

### *Release 2-R3.2.0.32*
May, 2013

**Issues Addressed**

- Improve the resiliency of the tip operations of the Bot1.
- Remove Capacitance values from the criteria of successful pick and drop tip operations
- Removed a liquid level check on subsequent passes of a stirring operation in Bot1.
- Correction of a problem on non-compliant project export.

## *Release 2-R3.1.0.31*
December, 2012

### Features

- The technology for the MVSS repository has been changed to a hidden file system solution that still satisfies the 21-CFR Part 11 requirements.
- Provides the ability to define Batches in a more generic way, this allowing more flexibility on protocol and cleaning steps.
- Provides a collection of new Bot1 protocols to limit dilution effects.
- Added support for the Eppendorf 96/2mL Deepwell Plate

### Issues Addressed

- Corrected a problem where exported reports had every second page showing as blank.
- Updated the memory usage for report generation and viewing to reduce the impact on the given PC.
- All Bot1 movement operations will now have a timeout of 55 seconds.
- Corrected a batch execution problem that would case the batch to hang at the end of a method operation when it used a method configured not to save any images.
- Corrected a problem where a batch would hang if a Dry operation was cancelled.
- Updated the GrabTip command to only use the capacitance readings as an indication of a successful tip grab.
- Corrected an error that would occur if the user clicked the Cancel Batch button during an analysis operation.
- Corrected a display problem in the Batch Status/Progress where a Baseline operation would contain duplicate text.
- Correct a display problem in the Batch Status/Progress dialog where the error message would be blank when the dialog was opened via the Batch Execution History dialog.
- Fixed a bug where they an invalid date was being shown for Start Date/Time in the View Report Dialog

*Release 2-R3.0.1.24*
February, 2012

**Issues Addressed**

- Corrected a problem in Liquid Level Sensing where the system may incorrectly detect a liquid where none was present.
- Corrected a problem where a Batch Status/Progress support file would become corrupt if it was a certain file size.
- Corrected some incorrect icon status values on the Batch Status/Progress dialog.
- Corrected the hardware calibration pin location.
- Improved the Bot1 Calibration procedure and cleaned up the user interface.
- Corrected a problem in Create Method where the Folder location was not being set correctly.
- Corrected a problem where a user would receive the following error when trying to view the details of the method: View Method was not Found.
- Corrected a problem where the software would crash after trying to create a method.
- Corrected a problem where the Batch Execution History dialog would provide a cryptic error message when trying to view a report that was exported and removed from the repository.
- Corrected a collection of memory leaks that would occur during Batch execution.
- Updated Batch Management User Interface to be allowed to modify a batch up until the point it was executed for the first time.
- Corrected a problem in the Batch Management user interface where the Move Up and Down buttons would not work correctly in all scenarios.
- Corrected a problem where the proper Bot1 Configuration values were not being used on a new install of the product.
- Corrected a problem where the folder location on a batch was not being used by the included methods.
- Updated the Batch Management Repository explorer to show the top level node.
- Corrected a problem where a Batch Name with special characters would cause a File Not Found error at the end of an Analysis operation.

*Release 2-R3.0.0.23*
January, 2012

**Features**

- Introducing the Bot1 hardware platform to work with the MFI5XXX series of instruments.

**Issues Addressed**

- Corrected a collection of memory leaks in various areas of the MVSS application.
- Corrected a problem in the Hardware Settings configuration where changing the serial number would cause the software to crash.

## *Release 2-R2.6.2.21*
November, 2011

**Issues Addressed**

- Fixed a bug in Sample Analysis that would cause the MVSS application to crash.
- Fixed a bug in the MVSS installer where by the MFIView.dat file was not being written in upgrade scenarios when the original file was missing.
- Fixed a bug where MVSS would provide a communication error during the Optimize Illumination step of a Sample Analysis.
- Fixed a bug where MVSS would report an incorrect particle count in ECD Bins in a small number of scenarios.
- Fixed a bug where MVSS would not start the pump fast enough on a method with defined with zero purge volume and this would result in duplicated images and particles for the first few images of the run.
- Fixed a bug where the MVSS application would crash if a user double clicks in the method list found on the method selection window.
- Removed the option to Open or Save images in the Image Viewer of MVSS.


## *Release 2-R2.6.1.20*

August, 2011

**Issues Addressed**

- Fixed a bug where MVSS may generate a collection of empty project folders at the start of Analysis.
- Fixed a bug where MVSS does not fully export an empty project and leaves around some empty sub-directories.
- Fixed a bug where MVSS may generate a "Seek Beyond EOF" error when trying to import an empty project.
- Fixed a bug where MVSS may show an invalid concentration value on a report using Time Resolved Mode.
- Fixed a bug where MVSS may show an invalid particle count value on a report using Time Resolved Mode.
- Fixed a bug where a user would see the installer error message, "Invalid Password" when trying to upgrade an MVSS repository that was created with a version of MVSS that encrypted the repositories (namely 2-R2.3.0.10 and earlier).
- Fixed a bug where MVSS would not create the System Account internal account when upgrading a version of MVSS that is 2-R2.4.1.12 or earlier.

### *Release 2-R2.6.0.19*
August, 2011

**Features**

- Added new Brightwell/MFI branding.
- Updated the MVSS installation process to add additional user verification when the repository upgrade process is attempted to be cancelled by the user.

**Issues Addressed**

- Fixed a bug where an MVSS repository could be corrupted when writing a file to the repository.
- Fixed a bug where a cancelled MVSS upgrade installation would result in the MVSS application not being able to be opened.
- Fixed a bug in the Create Repository part of the installer where double clicking on an empty section of the drive listing would result in the crashing of the installation process.

### *Release 2-R2.5.0.17*
June, 2011

**Features**

- Supports the MFI 5100/5200 instruments
- Added compatibility for the Windows 7 (TM) 32-bit operating system

**Issues Addressed**

- Minor miscellaneous software bugs

### *Release 2-R2.4.1.12*
September, 2010

**Issues Addressed**

- Corrected scenario to allow run software under a restricted user account
- Updated installer to not initiate the create repository utility on an upgrade from 2.4.0.11 to 2.4.1.12 as it is not necessary.
- Repaired several software bugs

## *Release 2-R2.4.0.11*
April, 2010

**Features**

- Ability to import projects into the repository
- Option to export single or multiple projects in one operation
- Single-click to export the entire repository for backup
- Elimination of miscellaneous reported bugs
- Addition of "Copy Repository" utility to the installer.  This utility will give you the option to copy the repository before upgrading the software.
  - How this works: During a software upgrade (when running the installer), you will be presented with the option to make a copy of the repository.  When prompted, if you click "Ok" windows explorer will pop up showing the repository file.  From there you can copy the file to a location of your choice.  Please note this should be a copy operation (not a delete/cut operation). Because this can be up to a 1 TB file the copy may take several hours. When the copy has completed you should click "Ok" and the software upgrade will continue as normal.  If you click "Backup Already Performed, Continue...", the repository file will not be copied and the software upgrade will continue as normal.

**Issues Addressed**

- Repaired several software bugs


## *2-R2.3.0.10*
February, 2010

**Issues Addressed**

- Repaired several software bugs

## *2-R2.2.0.9*
February, 2010

**Features**

- Supports new Peristaltic Pump
- Standard (non-Administrator) windows accounts are now supported.

**Issues Addressed**

- Repaired several software bugs

# Frequently Asked Questions

**With the ProteinSimple branding changes, were any of the sample analysis or report generation features affected in any way?**
The answer is no.  The branding changes were mainly aesthetic changes to the user interface.  The way that MVSS analyzes data, generates the reports and stores its information was not changed in any way.

**What support is available on the DPA 4100 and 4200 series following sales discontinuation?**
The same service support is still available to users. No new software releases or product development will occur on this platform in the future. Please refer to the sales discontinuation letter, available from Technical Support, if you did not receive it by email or from your sales representative. For future MFI instrument purchases, we offer the MFI 5100 and 5200 series instruments.

**Why does upgrade of software versions 3.0 and earlier, to v3.1 and later, require conversion of data to a new format?**
The repository format used to store information changed in v3.1 to improve stability and enable faster export of files for archiving.  This requires a complex upgrade process so that data from versions 3.0 and earlier be converted if they will be used on system which is running v3.1 software and higher.  Please contact Technical Support at ProteinSimple for more information on this upgrade process. Methods and user settings will also need to be recreated once upgrade to v3.1 and higher is complete. The way that MVSS analyzes data, generates the reports was not changed in any way.

**Does upgrade of software versions 3.1 to 3.2 and later, require conversion of data to a new format?**
The answer is no. This version of software is easy to perform, and data from 3.1 can be directly imported into version 3.2 and greater.

**If I upgrade from a version of MVSS that is 2.3.0 or earlier to v3.0, will my repository still be encrypted?**
Yes, the upgraded repository will still be encrypted.  Nothing has been done to this version to change this behavior.

# Contacts

Please contact your local sales representative with any questions or concerns regarding your ProteinSimple product. You may also contact a ProteinSimple Customer Support Specialist directly via:

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Web: www.proteinsimple.com
Email: support@proteinsimple.com
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