PC-DMIS 2017 R2

- Release Notes -

QUALITY DRIVES PRODUCTIVITY

PC-DMIS   CAD++ Version 2017 R2

Hexagon Manufacturing Intelligence

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Release Notes - 2017 R2 SP6

- PCD-112552 - Improved the overall performance of the Adaptive Circle Scan strategy. The scan processing time of a circle with a large diameter will be quicker than in previous versions.
- PCD-116904 - Fixed the issue of Patch scan not returning any data points when not using CAD.
- PCD-121976 - Prevented an overcurrent error that may happen when executing a tool change that requires the operator to manually make the change.
- PCD-123797 - Fixed an issue with the "S" axis deviation of Auto-Feature Vector Points.
- PCD-124717 - Fixed an error that occurred in best fit with offline execution as well as with CIR type on B5 controller.
- PCD-126636 - Fixed an issue where the transformation was not correctly applied when a Cast Line was constructed from a pointcloud.
- PCD-127608 - Fixed an issue where the probe did not move to the retract distance after measuring a self-centering point.
- PCD-128595 - To use PC-DMIS 2017 R2 SP6 with an embedded controller, it is required to install the Mycrona PC-DMIS-Interface 8.0.1 libraries (or higher).
- PCD-130558 - Renewed PC-DMIS GPIB support in x64. Mitutoyo machine interface is back in the installer with GPIB support. Sheffield and ZEISS old machine interface are again functional with GPIB.
- PCD-130580 - Corrected rotary table moves commanded to Technology server where the probe did not stay still and traveled along with the rotation.
- PCD-131028 - Fixed an issue where the **Measurement Strategy Editor** dialog box displayed the color black in and around the dialog box on some systems.
- PCD-131534 - Fixed an issue where the Quick Scan using the Free Form Plane strategy for a plane did not work.

- PCD-132799 - Fixed an issue with the Quick Start window while in offline mode where the user could not select the reference plane, and the **Measure** toolbar was missing the drop-down options for Circle, Round Slot, and Square Slot.
- PCD-133339 - Fixed an issue where a manual indexable probe head wasn't expected to be used with I++. EasyCMM expected the ChangeTool with a rotated tip name to be sent to it from the I++ client.
- PCD-133381 - Fixed an issue where the optimize path would not return control to the user in some cases.
- PCD-133771 - Eliminated unnecessary digits of precision when transmitting a THD PRBTYP to the machine controller.
- PCD-135652 - Fixed an old link in the installer (and Updater Settings) which stopped the user from being able to learn more about the User Experience Improvement Program.
- PCD-136028 - Fixed an issue where the manual **Temperature Compensation** dialog box may have appeared when calibrating even though it should be automatic compensation mode.
- UXP-11614 - Fixed an issue in Touch where the plane feature vector was properly stored, but after Data Dictionary was removed, it was no longer possible to use the gp() method with the SurfaceVector parameter to retrieve the correct vector value. The original behavior has been restored; it is again possible to use the gp() method with the SurfaceVector parameter to retrieve the correct vector value.

Release Notes - 2017 R2 SP5

- PCD-120652 - Fixed an issue where a circle scan went more than 360 degrees and in the wrong direction.
- PCD-121976 - Fixed an overcurrent error that may have occurred when PC-DMIS executed a tool change that required the operator to manually make the change.
- PCD-123293 - Fixed an issue where bitmaps were not created when Vision Diagnostics was enabled.
- PCD-125179 - Fixed an issue where PC-DMIS would not recognize an auto cone feature having a 1 degree cone angle.
- PCD-126520 - Adjusted the limit at which a constructed curve is considered to be a cross section.
- PCD-126565 - Fixed an issue where X5 type probes could not be used to perform manual stylus changes.
- PCD-126574 - Fixed an issue where, after sample hits were measured, an incorrect probe motion occurred to reach the first hit of the feature (Circle or Cylinder). This issue occurred when a negative spacer was specified and its absolute value was greater than the radius of the feature.
- PCD-126646 - Fixed an application error that may have occurred on dual-arm machines caused by the Tool.dat file.
- PCD-126798 - Fixed an issue where the number of rotations was incorrectly calculated when the difference between the start and end angles was close to 360 degrees or multiples.
- PCD-127736 - Fixed an issue where, if a wrong dimension value (such as width and length for slots, and diameter for a circle, cylinder, or sphere) was entered in the **Auto Feature** dialog box and the **Create** button was selected, the command was not created. In addition, one of the following error messages should have appeared to help identify the reason:

For an outer feature: "Invalid number entered - must be greater than zero"

For an inner feature: "Sizes for a contact feature should be greater than probe diameter"

- PCD-127861 - Fixed an issue where some data may not have appeared on the last page of a default report template when the template had three or more sections.
- PCD-128521 - Fixed an issue where the cloud of points (COP) showed zero number of points in the **Pointcloud Operator** dialog box when a pointcloud point colormap was edited. This issue prevented the point colormap from being applied.
- PCD-128945 - Updated DMIS Import to use substituted text when it parses a command line.
- PCD-129424 - Fixed an issue where PC-DMIS stopped working when a subroutine was executed from the cursor.
- PCD-129843 - Fixed an issue where an incorrect probe type was sent to the machine controller when the probe was changed from an analog scanning probe to a THD probe.
- PCD-130089 - Fixed an issue with the Pointcloud Export to PSL function where PC-DMIS did not select the proper alignment when an external alignment was used.

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- PCD-105865 - Added complete temperature compensation support (reading the temperature, and using all temperature modes) to the I++ client for the technology server. If the `UseTemperatureCompensationV2` registry entry is set to True, you can change the temperature sensors from the I++ registry settings when running from an I++ DMS Client interface.
- PCD-120772 - Fixed an issue to match a change by Microsoft regarding graphic information.
- PCD-123354 - Fixed an issue where the warmup state of the CMS laser probe was not managed correctly in all scenarios.
- PCD-124276 - Resolved an application error that may have occurred in a specific condition when a laser scan command was created.
- PCD-124485 - Fixed an issue where, during a scan points selection in all laser scan dialog boxes, the underlying CAD surface toggled its status from selected to unselected and vice versa with each click.
- PCD-124694 - Fixed an issue where custom toolbar icons were missing or invalid.
- PCD-125264 - The firmware is now checked to determine if it supports the THD probe type.
- PCD-125979 - Fixed an issue where laser surface points were not exposed in the **Point Nominal Deviation** dialog box.
- PCD-125987 - Fixed an issue with Pointcloud Surface colormaps when working in offline mode with a laser inspection routine; the colormap refreshed in the Graphic Display window during each copy and paste operation.
- PCD-126205 - Fixed an issue where laser features were not drawn in the Graphic Display window when they were pasted into the Edit window.
- PCD-126812 - Fixed an issue that affected the performance of the Vision 2D Profile feature.

- PCD-126875 - Updated the DMIS Postout Helper comment to select a feature's DATDEF label or the next one that is available. This is only used when PC-DMIS exports to a DMIS file and imports a DMIS file.
- PCD-126878 - Updated the DMIS Postout Helper comment to extract ID from its start alignment. This is only used when PC-DMIS exports to a DMIS file and imports a DMIS file.
- PCD-127699 - Fixed an issue where PC-DMIS stopped working when it used a PRINT command to generate output to Excel multiple times.
- PCDNC-2708 - Fixed an issue where migration of CNCSettings.dat files from 2016 and older versions of PC-DMIS would not transfer correctly.
- PCDNC-2734 - Fixed an issue where Probe orientation settings would be lost if any additional settings were updated in CNCServer.
- PCDNC-2859 - Fixed an issue where the **Set Protected Moves** dialog box did not initialize correctly.
- PCD-129546 - Prevents a controller communication interruption and resulting message about waiting for controller ready.

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- PCD-38730 - Fixed an issue where holding down Ctrl while clicking the left mouse button on a feature in the CAD window did not jump to that feature in the Edit window.
- PCD-109760 - Fixed an issue where if the measurement routine contained an EMPTY COPOPER command that was above the COP command, and the reference to a COP was lost, the desired COP could not be selected.
- PCD-118381 - Fixed wrong Read Position coordinates on the slave arm when auto features in a dual-arm measurement routine were executed.
- PCD-120764 - Fixed an issue with the management of wrist angles and extension lengths when performing tool changes with an HD wrist that involve both an HR-R rack and a separate stylus changer rack.
- PCD-121100 - Fixed an issue where the Graphic Display view did not orient correctly if you used a portable laser probe to scan in a direction with a negative Z component.
- PCD-122014 - Fixed an issue where, for vector points, the actual values reset to the nominal values when the measurement routine was saved and reopened.
- PCD-122252 - Fixed an issue where probes were not drawn in the Graphic Display window after deserialization.
- PCD-122329 - Fixed an issue where laser features could not be extracted from a cloud of points inside a subroutine.
- PCD-122490 - Fixed an issue where the ".executedcommands" automation method would fail when combined with loop logic in the Edit window.
- PCD-122857 - In version 2017 R1, we were adding name Custom Material to material coefficient file when user would type CTE which is not available in the file. This causes confusion. In order to keep material coefficient file clean, this change will not add 'Custom Material" in material coefficient file.

- PCD-123179 - Fixed an issue where the Position dimension size value lower tolerance was always using 0.
- PCD-123264 - Fixed an issue where an extra header line appeared in the Excel output for "Form" location axes. Flatness, Roundness, and Straightness may have generated the extra line.
- PCD-123356 - Excel output now pays attention to any alignment change to represent the output.
- PCD-123357 - When an Automation application opened or created a measurement routine or an inspection plan using the Automation 1.0 methods listed below and supplied a CAD file name, PC-DMIS marked the CAD file as "Modified" and used the current schema to save the file. This caused issues with INSPECT. The affected methods were:

  PartPrograms.OpenRoutine(..)
  PartPrograms.OpenInspectionPlan(..)
  PartPrograms.CreateRoutine(..)
  PartPrograms.CreateRoutineFromInspectionPlan(..)
  PartPrograms.CreateInspectionPlan(..)
  PartPrograms.CreateInspectionPlanFromPlanXml(..)

  After PC-DMIS loads the CAD file, it now marks the file as "Not Modified".

- PCD-123675 - Added the DriverVersion public property to the PC-DMIS COM interface machine object. This read-only property returns the driver version for your measurement machine. It returns version information from the machine interface call driver_get_version.
- PCD-123676 - Fixed a Find Hole functionality issue with the I++ interface.
- PCD-124231 - The graphical analysis point size value in the **Analysis** area in the **Auto Feature** dialog box now converts to the selected unit when you create a new measurement routine.

- PCD-124675 - Fixed an issue where the path line color was wrong if PC-DMIS detected a collision between the probe and the CAD surfaces.
- PCD-125488 - Fixed an issue where PC-DMIS may have stopped working when you chose to import all CAD GD&T callouts.
- PCD-125515 - Fixed an issue where the FDC interface may have returned incorrect AB angles for hit data.
- PCD-125742 - Fixed an issue where some probe extension arrangements were not properly recognized as being eligible for refinement calibration.
- PCD-125980 - Fixed an issue where a measurement routine stopped executing when an AUTOCALIBRATE command that was marked for Arm2 was run. This was caused by a communication issue that occurred when the tool.dat file was sent to Arm2.
- PCD-126358 - The values for the **Pt. Size**, **+ Tol**, and **- Tol** advanced measurement options in the **Analysis** area in the **Auto Feature** dialog box are expressed in the current measurement units (mm or inch).
- PCD-127381 - This fix allows multiple surfaces or wires/edges to be selected by holding the Ctrl key and left clicking on these in the CAD window.
- PCDNC-2758 - Fixed an issue where the fwlib32.dll file was not installed on the computer.
- PCDNC-2775 - Enabled the update work offset function to work correctly.

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- PCD-75064 - The "Passthru To Controller" command sends commands to the NC controller. You can use the prefix "CWS", which represents the Precitec controller (CWS), and the token "#" to send commands to the Precitec controller.

  For example, to take a dark reference, in the Edit window, enter the command `CWS#$DRK` in the Edit window.

  CWS# - Sends the command to the Precitec controller.

  $DRK - Starts taking the dark reference.

   All Precitec controller commands need to start with $.

  If there is no prefix (CWS#), the PassThru command is sent to the NC controller.

  This solution works for FDC-SLC and FDC-VisionBox. It does not work with embedded controllers.

- PCD-114837 - Fixed an issue where some B-spline surfaces that represented a cone were incorrectly identified as a cylinder.
- PCD-121457 - Fixed an issue where the descriptions of some items were missing from the **Setup Options** dialog box in the Chinese Simplified language pack.
- PCD-124653 - Fixed an issue where some printers caused PC-DMIS to not print textual data at the bottom of a report page. PC-DMIS now queries a printer multiple times for a font size so that the data fits on the report.

Release Notes - 2017 R2 SP1

- PCD-110945 - Updated the interface for the Faro arm with contact probing capability to 64-bit.
- PCD-115696 - For Leitz and common controllers, when temperature compensation was turned on in the controller for the workpiece, the MOVABS position command was adjusted by the compensated values. To keep compatibility with FDC, we added new capability to decompensate the position.
- PCD-117234 - Fixed a runtime error executing AUTOCALIBRATE with TEMPCOMP in a dual-arm measurement routine.
- PCD-121457 - Fixed an issue where the descriptions of some items were missing from the **Setup Options** dialog box in the Chinese Simplified language pack.
- PCD-122128 - Fixed an issue where editing a feature vector may have caused an incorrect display in the Live View.
- PCD-122304 - Fixed an issue with the level functionality of quick fixture. If an item had never been moved, a bad vector was used; this caused the item to disappear.
- PCD-122592 - Fixed an issue where rotating the rotary table could result in the incorrect drawing of the feature in the Live View.
- PCD-122827 - Fixed an issue where extra geometry sometimes displayed after a mirror operation.
- PCD-123205 - Fixed an issue where the position of the rotary table was not updated after 4 Axis scanning.
- PCD-123656 - Fixed RDS (CAA wrist) support for the CMMOS interface.

- PCD-124459 - Due to the implementation of simplified temperature compensation in PC-DMIS 2017 R2, the temperature compensation for dual arm did not work. This issue fixes temperature compensation in dual arm. Dual-arm machines will now be able to use the original temperature compensation command and continue to compensate part measurement for temperature.
- PCD-124696 - Fixed an issue with constructed circle's outlier filter.
- PCD-124883 - Fixed an issue where data was incorrectly exported in IGES format when the Pointcloud Export command was used, and the file type was set to XYZ or PSL.

Release Notes - 2017 R2

PC-DMIS 2017 R2 is a significant development release of the software. For detailed information and video tutorials about this release, log on to hexagonmi.com/products/software.

Auto Features - Laser

- From the **Auto Feature** dialog box for a Laser Surface Point, you can choose to extract a Surface Point from a mesh data object. When you extract a Surface Point from a mesh data object, all of the triangle vertices inside the extraction zone, defined by the horizontal and vertical clipping, are first considered. To get a more accurate result on a curved surface when you extract a Surface Point from a mesh, use a smaller horizontal zone to limit the points (vertices) that PC-DMIS uses to calculate the measured value. See PCD-109572.

- From the **Auto Feature** dialog box for a Laser Edge Point and Laser Flush and Gap, there is a new **Laser AF Multiple Creation** tab. You can choose to create multiple Edge points or F&G on a curve, evenly spaced using a step distance. See PCD-23429.

Auto Features - Scanning

- If you use the **Save As** dialog box to save a measurement routine to an older version of PC-DMIS, and if the measurement routine contains commands that the older version does not support, PC-DMIS displays a caution message. You can choose to either save or not save the measurement routine to the older version. If you choose to save it, PC-DMIS converts the non-supported commands into comments and displays the **Commands Not Supported Converted to Comments** dialog box. This dialog box lists the non-supported commands that PC-DMIS converted to comments.

You can use the new `SaveAsWarningLogEnabled` registry entry to create a log file with the contents of the **Commands Not Supported Converted to Comments** dialog box.

See PCD-106618.

- The Adaptive Free Form Plane Scan and Touch Trigger Probe (TTP) Free Form Plane strategies for the Plane Auto Feature provide the ability to use start and direction points to generate a closed perimeter path. See PCD-106633 and PCD-106634.
- The Adaptive Circle Scan strategy for the Circle Auto Feature generates a defined path scan. To improve performance, we have optimized the number of points that are generated and sent to the controller as the path; a large number of path points are not sent to the controller. This change also applies to the Adaptive Cylinder Concentric Circle Scan and Adaptive Cone Concentric Circle Scan strategies. See PCD-113356.

Auto Features - Vision

- ***Featured Item!*** Features now display in the Live View. This enables you to view the measured geometry of the created feature and to easily identify the features that have already been created. See PCD-23628.
- ***Featured Item!*** We improved the Illumination controls in the Live View overlays. They offer a simplified selection method for rings, sectors, and individual lamps. See PCD-101353.
- The Focus graph appears in the Live View for the following:
  - Auto or Sensi Focus
  - Learn Time or Test of Auto Feature with Focus enabled
  - Surface point @ Execution time
  - Failed Focus @ Execution Time

  See PCD-109133.

- We added the **Focus** list to the **Debug** tab in the **Machine Options** dialog box. If you are connected to a Vision machine, you can use this option to log focus-related debug information for Vision systems. See PCD-109136.
- We introduced a new and improved outlier removal algorithm for lines and circles. The first step is an improved fit that is more robust to the presence of outliers. The new fit performs better for outlier removal, because it is less affected by large and/or concentrated and/or numerous outliers. The second step is an improved cutoff procedure for evaluating which deviations are outliers.

  We are aware that all existing measurement routines that employ outlier removal for lines and circles may have different results. However, we are confident that the new outlier removal is superior to the old removal. In the vast majority of cases, existing measurement routines will be improved by the new removal, due to better discrimination between which points are outliers and which are not. However, a few cases may exist where it is necessary to adjust the standard deviation multiplier in order to fully exploit the superior outlier detection and removal; we apologize for any inconvenience.

  See PCD-112994.

Automation

- You can access and change dimension colors through automation. See PCD-116558.
- We added the OnReportPrintStart and OnReportPrintEnd events to the **ApplicationObjectEvents** and **PartProgram** objects. See PCD-115418.
- The current folder's read and write properties are exposed through automation. See PCD-114161.
- More control has been provided via automation about whether to display tip error messages. See PCD-112219.

CAD

- You can use the tools in the **Feature - Sensor Mapping** dialog box to specify the sensor order. See PCD-109726.
- The Teamcenter interface supports the NX Direct CAD Translation (DCT), JT DCT, and CATIA V5 DCT translators. See PCD-112435.
- Swiftfix Vision components are available in the fixture library. See PCD-113411.
- If the Characteristic ID is activated in your license, an icon displays the Characteristic ID in the Graphic Display window. See PCD-115430.
- We added a Solid Edge DCT translator to PC-DMIS. See PCD-116149.
- A **Cancel** button is available when you import a CAD model through DCT. You can use this button to cancel the import of the model. See PCD-116292.
- The **Cancel** button is available when you import an NX model through Direct CAD Interface (DCI). See PCD-116925.
- We added support for multi-threaded tessellation. On a system with eight cores, this means that the tessellation stage of a CAD model import will potentially be eight times faster. See PCD-116927.
- We added the ability to import a file in Vero Software's VISI format. See PCD-70711.

GD&T - Selection

- You can use CAD Capture to create the Exclude file for GD&T visibility. See PCD-106616.
- GD&T Selection supports datum target points with the high-point designation. See PCD-109178.

Graphics

- Quick Features includes the ability to box-select points in Curve mode. See PCD-114235.
- The default option in the **GD&T callouts** area in the **Rotate Options** dialog box changed to **Always display**. See PCD-114651.

Help/Documentation

- The Machine Interface Installation Manual (MIIM) is available as a .chm help file. This file is primarily for Application Engineers and service personnel so they can set up and configure machine interfaces. You can access the MIIM.chm from the language subfolder where PC-DMIS is installed. It is currently available only in English. See PCD-108849.

I++

- When the SAVE/ALIGNMENT *file name*,… command is used, and the `SendCsyToServer` registry entry is set to TRUE, the active alignment will be stored to the I++ server with the SaveActiveCoordSystem("Name") I++ command. The As Name *file name* parameter without a path and extension will be used. This feature is related to the I++ client. See PCD-113147.

Installation

- ***Featured Item!*** The INSPECT application now supports Slideshow. Slideshow can display multiple slides of dimensional and informational labels whenever you execute a measurement routine. With Slideshow, you can create or edit a template that contains the label controls on the slides to report the measured dimension data. See PCD-116922.

Point Clouds

- ***Featured Item!*** You can create one Surface Colormap, group the selected surfaces, and assign different tolerances to each group. When a colormap contains multiple groups with different tolerances, the color scale is automatically shown using percentages. When you create a Surface Profile Dimension that uses a colormap with grouped, multiple tolerances, you can expand the COPFCOLORMAP feature to show the individual groups. You can create a Surface Profile Dimension for each COPFCOLORMAP group. See PCD-108873.

- We improved the Mesh feature as follows:
  - You can apply a colormap to the mesh data object and create annotation points. The mesh is compared to the CAD model and then the mesh colormap is applied to show the deviations. See PCD-97941.
  - To support data from other interfaces, PC-DMIS can use a mesh as a data object. Mesh functions are located on the **Mesh** toolbar (**View | Toolbars | Mesh**). These functions require the optional Mesh license, which is available only with an LMS license. See PCD-111533.
  - You can align the mesh data object to a CAD model or align a mesh to another mesh object. If you align a Mesh data object to a CAD model, you can use either the Auto Compute or Point Pairs/Refine Alignment method. If you align a mesh to another mesh data object, you should use the Point Pairs/Refine Alignment method. The Auto Compute method is not available for mesh-to-mesh alignments. See PCD-113227.
  - If you select the **Empty Mesh** button on the **Mesh** toolbar, the current mesh object empties. This is typically done to prepare to import a new mesh object. You can also insert an Empty mesh command into the measurement routine through the mesh Operator function. See PCD-113012.
- We improved the Caliper tool as follows:
  - You can set the sizes of the Caliper start and end tips individually. The **Gage** dialog box contains separate options for the start and end tip sizes. You can also change a tip size from the Edit window. See PCD-106232.
  - You can use the **Caliper line thickness** option on the **OpenGL** tab in the **CAD and Graphic Setup** dialog box to set the thickness of the Caliper line. See PCD-106465.

- When you create a Caliper gage, PC-DMIS automatically calculates the start, mid, and end points. These points automatically appear as valid selections in the Dimension, Construction, and Alignment windows. See PCD-106501.

Portable

- PC-DMIS no longer supports the Axila portable arm. No development in GDS has occurred at the factory level, and there is no plan to upgrade or enhance it in the future. See PCD-110944.

Probes - Tactile

- ***Featured Item!*** PC-DMIS supports the HP-THD probe. See PCD-97058 and PCD-110473.
- PC-DMIS sends the bending parameter, if available, for calibration of 500 mm and longer probes on X5 and X5HD probe heads with the FDC controller. This improves the accuracy of measurements. See PCD-98965.
- PC-DMIS supports the LSP-S2 Scan+ probe head with a standard stylus holder and a stylus holder with a changeable temperature sensor for the Leitz reference line and PMM-C lines of machines. See PCD-99133 and PCD-117390.
- A new weighted extension that you can use in the calibration routine of the HP-C-VE is available in the **Probe Utilities** list. See PCD-106190.
- You can use the Calibration tool to define the CTE (Coefficient of Thermal Expansion). See PCD-115591.

Probes - Tactile and Vision

- We added the new weighted extension to be used in the calibration routine of the HP-C-VE probe to the **Probe Utilities** dialog box. See PCD-106190.

Reporting

- For Graphical Analysis, you can change colors, arrows, and line types. See PCD-113308.

- For Graphical Analysis, label options are consistent between custom reports and template reports. See PCD-80581.
- We added .txt output as an option for the Print command. We also added it to the **Output Configuration** dialog box. See PCD-101847.

Scanning

- Quick Scan supports laser probes, such as the CMS. To create a Linear Open scan, press Shift+Ctrl, and then click and drag on the surfaces. You can also create polylines. In curve mode, click at the start point, with Shift+Ctrl pressed, on a polyline and gesture in the direction of the scan. Quick scan supports the use of multiple surfaces and polylines, as well as preselected surfaces or polylines. See PCD-100815.
- A new function supports continuous scanning at 10 Hz for the AT-403 Leica Tracker. The **Probing** tab in the **Parameter Settings** dialog box displays the time and distance values for the continuous scan. The continuous scan can be done with time or distance. To start or end the continuous scan, press Ctrl+I, or use the **Operation | Start/Stop Continuous Mode** menu option. See PCD-114379.

Teamcenter

- We added the **File | Teamcenter | Setup** menu item. This item displays the **Teamcenter Setup** dialog box. The setup options in the dialog box enable you to:
  - Include the revision number in the file name when you save your routine to Teamcenter.
  - Optionally save the probe files at a location specified by the user.

These registry entries support the setup changes to the Teamcenter interface:

- `AddRevisionToName` - Specifies whether PC-DMIS adds the revision number in the measurement routine's file name whenever it saves the measurement routine to the Teamcenter database.
- `ProbeLocation` - Specifies where in the Teamcenter database to save the probe files.
- `SaveProbes` - Specifies whether PC-DMIS saves the probe files that are in the measurement routine to the Teamcenter database.
- `SaveProbesInDatabase` - Specifies whether PC-DMIS saves the probe files that are in the measurement routine to a defined location in the Teamcenter database.
- `SaveProbesWithMeasurementRoutine` - Specifies whether PC-DMIS saves the probe files that are in the measurement routine to the same location as the measurement routine in the Teamcenter database.

See PCD-114872 and PCD-116137.

Temperature Compensation

- ***Featured Item!*** Simplified Temperature Compensation is available (**Edit | Preferences | Temperature Compensation Setup**) for machine-level setup. You can set up temperature compensation for each individual machine. This enhancement offers the ability to define a "default" part sensor. The advantage of using a default sensor is portability of the measurement routine to another system with a different default sensor number.

  The Temperature Compensation command is simplified. Most users need to choose the material in the **Temperature Compensation Setup** dialog box.

The Temperature Compensation command can also use multiple part sensors to support controllers that offer multiple part sensors. You can select one or more sensors attached to the part. PC-DMIS uses the average temperature when you use multiple sensors.

You can use a variable in the Edit window to determine the part temperature. This is useful when it is not feasible to use the sensor on the machine. Some external sensors are required for part temperature measurement, such as when a robot loads a part. To use this feature, type the name of the variable in the Edit window.

PC-DMIS offers the ability to automatically insert a Temperature Compensation command into a new measurement routine.

The Temperature Compensation command generates an error when the temperature is outside of the warning limits. The PC-DMIS "On Error" command can catch this error and help set the variable, or jump to a label, according to your selection. This helps to ensure that parts are measured at the desired temperature.

PC-DMIS offers a Temperature Gage command (**Insert | Gage | Temperature**). This command reads the current temperature of the X scale, Y scale, Z scale, and part. This appears as a dimension in the Edit window, and PC-DMIS reports the command's output in the results. The results can be a statistical analysis sent to DataPage+ or QDAS. The Temperature Gage command dimensions the Temperature Compensation command when you place the Temperature Gage command immediately after the Temperature Compensation command. The gage's measured values can be assigned to variables to create your own logic.

PC-DMIS offers the use of temperature compensation during probe calibration. To use it, define the CTE (Coefficient of Thermal Expansion) for the calibration sphere's material in the calibration tool's definition. The calibration compensates for the temperature if the Temperature Compensation command has been executed before the calibration.

For users who need more flexibility, the Advanced Temperature Compensation feature **(Insert | Modules | Advanced Temperature Compensation**) offers the ability to set the thermal expansion origin in the part or machine coordinate system. This feature also offers continuous part temperature compensation.

Simplified Temperature Compensation is not available for the following types of machines:

- PC-DMIS NC
- PC-DMIS Portable
- Dual-arm CMMs
- Non-Hexagon machines

See PCD-114402.

Toolkit

- We improved the options that you can use to import and export parameter sets in the Blade Scan toolkit command:
  - You can save a parameter set as an .xml file.
  - You can save additional control points.
  - The parameter sets are saved with the measurement routine's unit of measure. If necessary, PC-DMIS converts the unit of measure when you import a parameter set.

- You can save parameter sets for single and multiple sections. When you save parameter sets for multiple sections, PC-DMIS matches the section name and applies it accordingly.
- You can apply a parameter set from a single section to any section.

See PCD-108183.

- The Blade Scan Profile command is retired. The Blade Report command has replaced it. The Blade Report command is the updated version of the Blade Scan Profile command. The Blade Report command creates the Blade .rpt file directly from PC-DMIS. You will be required to update any measurement routines that used the Blade Scan Profile command. See PCD-116252.

Tracker

- We added support for the AT-403 Tracker. See PCD-109585.

User Interface

- We refreshed toolbar icons, application fonts, and CAD background and status colors:
  - We applied more modern and cohesive icons for toolbars, and more consistent use of status color, throughout the application. See PCD-115197.
  - We changed the name of the **Live View** tab to **VISION** to be more consistent with the **LASER** tab. See PCD-113528.
  - We changed the default background color for CAD window to fit in better with new refreshed theme. See PCD-113527.
  - The active tab in the main application window and in the Probe Toolbox displays a blue icon so that you can see which tab is selected. See PCD-113529.
  - Default fonts are in the more modern Open Sans. See PCD-113535.

We updated icon and other screen captures in the help documentation to match.

Also see PCD-113526.

- You can select the Global 20-40-20 machine model for offline programming. See PCD-56393.

Information about this Release

We at Hexagon Manufacturing Intelligence are proud to bring you PC-DMIS 2017 R2. This platform brings together new aspects of the software for the development of a complete manufacturing process control solution. Available in this release are variations of the software designed to assist with every aspect of the fabrication and quality control process. The newly created packages include the established PC-DMIS Laser, PC-DMIS NC, PC-DMIS Vision, PC-DMIS Pro, PC-DMIS CAD, and PC-DMIS CAD++ platforms.

The testing of this version has been significant. We'd like to take a moment to discuss this process and also make you aware of the various components of testing.

Testing consists of two parts. These can be described as functional testing and integration testing.

- The vast majority of testing effort goes on in the functional area. This is the testing that determines that specific functions that are core to the software, regardless of what type of machine is used, are working correctly.
- The integration testing is essentially a testing of the interface with a particular type of machine.

In the ideal scenario, Hexagon Manufacturing Intelligence would have access to at least one of every piece of hardware running the software that is operating in the field. However, in practical terms, this is impossible. This integration test plan is then performed on as many types of machines as we have available.

Should you experience problems with your system after you install PC-DMIS 2017 R2, it could possibly be an integration problem. If it is a problem of this nature, it will probably be evident immediately upon first use of the possibly untested configuration. To report any integration problems, see "Contact Hexagon Manufacturing Intelligence". Should such a problem materialize on a commercial release, you will be given the highest priority for correcting these problems.

For existing users of the software who currently have earlier versions of the software installed, it is advised that you install PC-DMIS 2017 R2 into a new directory. In this way, you can be assured of continuous use of the existing version should problems arise with this newer version.

New Product Information

About the 64-Bit and 32-Bit Versions

The following items are only supported in the 32-bit (x86) version of the software; they are not available in the 64-bit version. If you need this functionality, you will need to install a version of PC-DMIS that supports a 32-bit version (such as PC-DMIS 2017 R1).

- CAD (3D ACIS data embedded inside of DXF Files)
- Translators (Avail, Datalog, MeasureMax, MMIV, and Tutor)
- Vision (MEI, QVI, ROI, TESAI++, and TESAVISIO). Note that the FDC, Leitz, and Metronics controllers are available in the 64-bit version.
- CMM (B & S Backtalk, Embedded Board, Manmiti, Manmora, Metrocom, Mitutoyo GPIB, GeoCom, GOM, LK, Numerex, Omniman, and anything using the parallel port driver)
- Portable (FaroArmUSB and Axila)

ManualCMM and Tech80 have reduced functionalities.

Running the PC-DMIS Universal Jogbox Utility

If you are using the PC-DMIS Universal Jogbox Utility (PCD_UJB_Util.exe *32), ensure that you do the following:

- Start the utility as XP-SP2 compatible:

  1. Right-click on the **PC-DMIS Universal Jogbox Utility** icon on your desktop, and then select **Properties**.
  2. Select the **Compatibility** tab.
  3. Select the **Run this program in compatibility mode for** check box, and then select **Windows XP (Service Pack 2)** in the list.
  4. Select **Apply** and then **OK**.

- After the utility has been installed, do not run it as an administrator.
- Run the utility with the logon account properties that are set for the current user.

Installing the Software

To install the software, follow these steps:

Step 1: Check System and Hardware Requirements

Before you attempt to install a new version, ensure that you meet the system and hardware requirements discussed above in "[Recommended System Requirements](#)". You must also have a USB portlock or valid software license for the installation to work. Your IT specialist can help you with this information.

- To get your computer's properties, highlight the **My Computer** icon, right-click on it, and select **Properties**.
- To check the display properties for the graphics card, select **Start | Settings | Control Panel**, and then select **Display and Settings**.

Step 2: Log on as an Administrator

To install and run your new version for the first time, you must be logged on as a user with administrator privileges.

Step 3: Back Up Existing Settings

Back up your settings from your previous version. By default, PC-DMIS 2017 R2 attempts to migrate existing settings from previous installs on the same computer, even from old versions of the software where settings were stored in the pcdlrn.ini file.

- If your current version uses the pcdlrn.ini file for its settings, back up your pcdlrn.ini file. This file is in the Windows system directory. Save a copy of the file in a safe place.
- If your current version uses the PC-DMIS Settings Editor, back up your PC-DMIS Settings Editor data. To do this:

1. Start the Settings Editor.
2. Click the **Backup** button (or **Export**). The **Backup** dialog box appears:
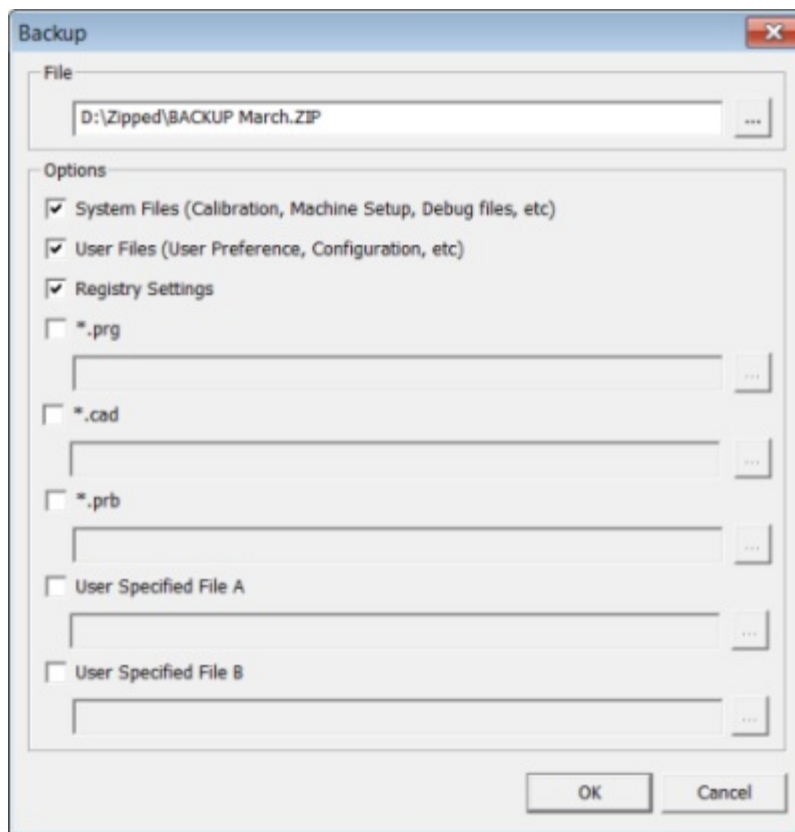
Backup dialog box

3. In the **File** box, define a safe location to save the backed-up files, and give the file a .zip extension.
4. Select the first three check boxes, and click **OK**.

If you replace your computer or transfer settings that reside on another computer, you can use the Settings Editor's **Backup** and **Restore** buttons:
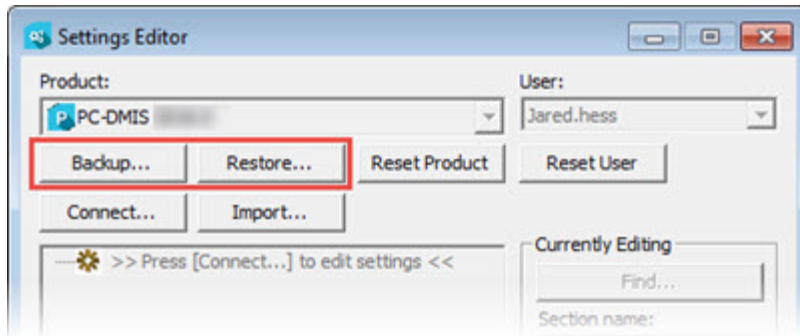
Backup and Restore buttons

For more information on the backup and restore functionality, refer to the Settings Editor documentation.

Backing Up Machine Files for an Xcel CMM or a Sharpe Controller

If you are using a Brown and Sharpe Xcel CMM or a CMM that uses a Sharpe controller, and you are going to install PC-DMIS 2017 R2 on a new computer, save copies of the following CMM machine files from your previous version to a safe place:

- comp.dat

    Starting with PC-DMIS 2013 MR1, the comp.dat file moved to:

        C:\ProgramData\WAI\PC-DMIS*version*

- downl.oad

The files are located in the installation (root) directory for all software versions prior to 2013 MR1, regardless of the operating system.

The location of the installation (root) directory is:

    C:\Program Files\WAI\PC-DMIS *version*

For versions of PC-DMIS up to and including 3.7 MR3, the location of the installation (root) directory is:

C:\PCDMISW

Backing Up Machine Files for a CMM with a DEA Controller

If you are using a DEA or other CMM with a DEA machine controller, and you are going to install PC-DMIS 2017 R2 on a new computer, save copies of the following CMM machine files from your previous version to a safe place (the files vary according to the type of CMM):

- cosdat1.bin
- compens.dat

    Starting with PC-DMIS 2013 MR1, the compens.dat file moved to:

    C:\ProgramData\WAI\PC-DMIS*version*

- Fzyfile.txt
- Rcxfile.txt
- Rmxfile.txt
- Any file with your machine's serial number in its name

The files are located in the installation (root) directory for all software versions prior to PC-DMIS 2013 MR1, regardless of the operating system.

The location of the installation (root) directory is:

C:\Program Files\WAI\PC-DMIS *version*

For software versions up to and including 3.7 MR3, the location of the installation (root) directory is:

C:\PCDMISW

Step 4: Install the Software

The following steps run you through a typical installation. Your installation screens may differ if you are running a different version of PC-DMIS 2017 R2 or if you are installing a custom build with additional options. In addition, your license may be configured with different options.

1. Locate the installation file on your installation media; or, if you downloaded it, open the directory containing the downloaded file. The installation file looks like this:

   Pcdmis2017_R2_Release_##.#.###.#_x64.exe

   The # symbols represent the specific version and build numbers.

2. Double-click this executable file to open the installation program.
3. If a security warning appears, click **Run**.
4. From the initial license screen, read the license agreement, and select the **I agree with the License terms and conditions** check box.
5. In the box at the bottom, you can define the installation folder. By default, the file installs to:

   C:\Program Files\Hexagon\PC-DMIS 2017 R2 64-bit

   To change the folder, either click the browse button and choose a folder, or in the box, type a new path.

6. Once you accept the license agreement and choose the installation folder, click **Next** to open the licensing screen.

7. From the licensing screen, choose your license type:

    - **LMS (Software) License** - If you have a software license (called an Entitlement ID), select this option. Complete the boxes beneath this option.

    - **LMS License Server** - If you have a license server to connect to, select this option and then type the server address.

    - **HASP** - If you have a portlock (a physical USB device with the licensed options), ensure that it is connected to your computer, and then select this option.

    For help on how to set up an LMS license, see "LMS License Setup".

8. Click **Next**.

9. Choose to install additional software. If you chose a custom installation path, the additional software still installs to your default measurement routine directory (usually C:\Program Files\Hexagon\).

    - **INSPECT** - This is an operator interface to PC-DMIS 2017 R2. You can open PC-DMIS 2017 R2 from within INSPECT to generate reports and execute measurement routines. You can execute measurement routines from the local directory or the MMS server.

    - **PDF Converter 5.0** - This third-party tool converts PC-DMIS 2017 R2 reports to PDF outputs.

    - **NOTIFICATION CENTER** - This application sends notifications from a client application, such as PC-DMIS 2017 R2, to your computer or measurement device. It does this during certain events, such as when the machine has an error.

Join the Hexagon Customer Experience Improvement Program - To help improve the product and send usage data to Hexagon Manufacturing Intelligence, select this check box. To opt out of sending usage data, clear the check box. For more information about this program, visit the [Hexagon Customer Experience Improvement Program](#) web site.

You can also choose to send usage data to Hexagon Manufacturing Intelligence after you install the software. For more information, see "[Updating the Software](#)".

10. Click **Install** to start the installation. A progress bar shows the overall progress.
11. When the installation finishes, a screen shows any warnings or errors. It also contains these options:

   - **Launch PC-DMIS** - To launch PC-DMIS 2017 R2 now, select this check box. If this is your first time installing this version on this computer, you should do this to initialize registry entries. For more information, see "[Administrator Privileges Explained](#)".
   - **Show Release Notes** - To display a .pdf that shows what is new or has changed in this release once you click **Close**, select this check box.

12. Click **Close** to close the installation program.
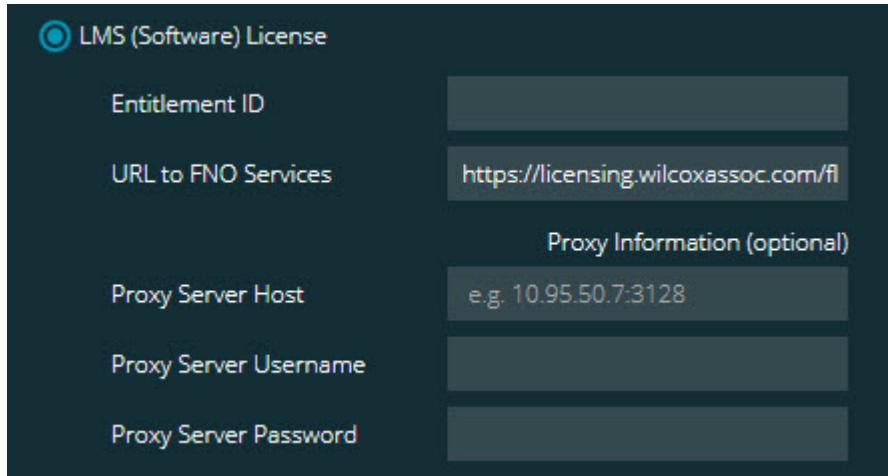
LMS License Setup

This topic provides information if you need to:

- Set up your LMS (software) license
- Connect to an LMS license server
- Update your LMS license
- Provide licensing information to the installer from the command line

LMS (Software) License

If you chose **LMS (Software) License** on the licensing screen, and the installation cannot find a valid license on your system, you need to complete these options:

LMS (Software) License option

1. Complete the options:

   - **Entitlement ID** - If you have an Entitlement ID, type or paste the ID you were issued in the box. If you have supplied this value in a previous installation, the installer pulls in that value from the registry.

   - **URL to FNO Services** - This points to the URL that verifies your license. Ensure that it has this URL:

   https://licensing.wilcoxassoc.com/flexnet/services

   - Proxy information - If your computer is on a network where you need a proxy server to reach the Internet, contact your IT specialist to get this information. Enter the server host, user name, and password.

2. If you do not have an Entitlement ID and you need to activate your license offline, use the CLM Admin application. From the CLM Admin application, choose **Activate new licenses**, and follow the on-screen instructions.

> ℹ️ For information on how to use the CLM Admin application, consult the Hexagon Client License Manager (CLM) Software documentation (pcdmisclm.chm). You can find this in the language subdirectory.

3. Click **Next**. The installation software connects to the Internet and activates your license. It then installs the FLEXnet Licensing Service required to use LMS licenses.

LMS License Server
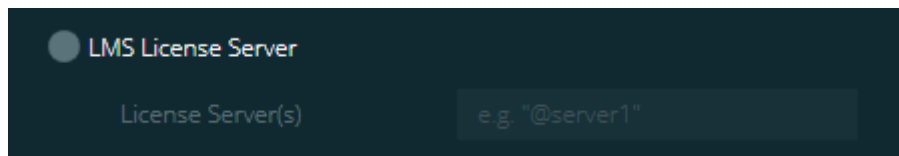
LMS License Server option

If you use a license server, select this item, and then type your license server name in the **License Server(s)** box. The format of this line of text is *port number@server name*, where *port number* is the TCP port number for the licenser server, and *server name* is the name of the server.

The default TCP port number is 27000. If you don't identify a specific port, the license server uses the default. For example, these mean the same thing:

    @server1

    27000@server1

> 👁 If you use this option, place the "@" symbol in front of the server address. If the "@" symbol is left off, the installation process attempts to look locally for the license. This may result in an error.

You can also specify multiple license servers. You can separate them with semicolons. For example, suppose that you have three license servers called licenseserver1, licenseserver2, and licenseserver3, and all of them use the default TCP port. You can specify all of them in a single line of text, like this:

@licenseserver1;@licenseserver2;@licenseserver3

Updating Your LMS License

Once you finish with the license setup and install PC-DMIS 2017 R2, it checks for license updates when it starts and after every eight hours eight hours of running. If a license update is available, this notification appears:

PC-DMIS

Updates are available for your PC-DMIS license. Applying them now will require PC-DMIS to restart. Would you like to apply the updates now?

To apply the update, click **Yes**. If you click **No**, PC-DMIS 2017 R2 displays the message every eight hours of running or the next time it runs.

- If an option or a feature is added, you are given the choice to apply the changes. A pop-up message displays in the system tray if you apply the changes.
- If an option or feature is removed, a message that requests you to restart PC-DMIS 2017 R2 appears. A pop-up message also appears in the system tray to inform you of this.
- If an option or feature is obsolete, it is automatically removed.

 After you apply an update, restart PC-DMIS to ensure that it functions properly.

Providing LMS Licensing Information to the Installer from the Command Line

You can send LMS licensing information to the installer through command line parameters. For more information, see "Providing LMS Licensing Information to the Installer from the Command Line" in Appendix A.

Administrator Privileges Explained

Software versions earlier than version 2012 require that you run the software as an administrator because some system settings (such as the last probe used, wrist angles, and other items) were shared among all users on that computer. This required that these settings were placed in the LOCAL_MACHINE section of the Windows registry instead of in the CURRENT_USER section (for user-specific settings). Making changes to settings in the LOCAL_MACHINE section requires administrator privileges.

In PC-DMIS version 2012 and later, the settings mechanism used by PC-DMIS changed to only require administrator access the very first time it runs at the end of the installation. From that point forward, standard user access is sufficient.

The PC-DMIS installer has a flag that is built into the setup executable file (Pcdmis2017_R2_Release_##.#.###.#_x64.exe) that requires the setup process to run with administrator privileges. If the current user has lesser privileges, the setup program displays a prompt to provide a user name and password of an account with administrator privileges.

Once the installation finishes, the first time you run PC-DMIS 2017 R2, you must launch it with administrator privileges. If you mark the **Launch PC-DMIS after the install finishes** check box when the installation finishes, PC-DMIS 2017 R2 does this automatically by passing the original privilege level of the installer onto PC-DMIS.

Note, however, that if you do not mark this check box, you will need to explicitly right-click on the shortcut and select **Run as administrator** as described in step 6.

For more information on the file system and registry rights that PC-DMIS 2017 R2 requires, see "Required User Access Rights" in Appendix B.

Step 5: Copy Files after Installation

If these files are available, copy them from your old PC-DMIS installation directory to the directory where you installed the newer version:

- Sysparam.dat
- Downl.oad
- Fzyfile.txt
- Rcxfile.txt
- Rmxfile.txt

Starting with PC-DMIS 2010 MR2, PC-DMIS automatically copies common system files to the program data files directory when you install a newer version of PC-DMIS.

The comp.dat, compgrid.at, comp.enc, and compens.dat volcomp files used with volcomp methods 13 (ASI) and 14 (BNS) must be in the program data files directory. When you install a newer version of PC-DMIS, these files automatically copy to the program data files directory for the new version. For the default path location of this directory, see "Understanding File Locations" in Appendix B.

For additional information on volumetric compensation files and setup, see the Machine Interface Installation Manual (MIIM).

You can access the MIIM.chm help file in the **en** subfolder where PC-DMIS is installed.

Copying Machine Files for an Xcel CMM or a Sharpe Controller

If you are using a Brown and Sharpe Xcel CMM or a CMM that uses a Sharpe controller, and you installed PC-DMIS 2017 R2 on a new computer, copy the backed-up CMM machine files to the following location on the new computer:

C:\Program Files\Hexagon\PC-DMIS *version*

For more information about these files, see "Backing Up Machine Files for an Xcel CMM or a Sharpe Controller".

## Copying Machine Files for a DEA CMM with a DEA Controller

If you are using a DEA CMM with a DEA machine controller, and you installed PC-DMIS 2017 R2 on a new computer, copy the backed-up CMM machine files to the following location on the new computer:

C:\Program Files\Hexagon\PC-DMIS *version*

For more information about these files, see "Backing Up Machine Files for a DEA CMM with a DEA Controller".

Step 6: Launch the Software for the First Time

1. When you run PC-DMIS 2017 R2 for the first time, select **Start**, **All Programs**, and then **PC-DMIS 2017 R2 64-bit**.
2. From the list of shortcuts, right-click on either the **Online** or **Offline** icon, and then select the **Run as administrator** option (required only if the **Launch PC-DMIS** check box wasn't checked at the end of the installation).
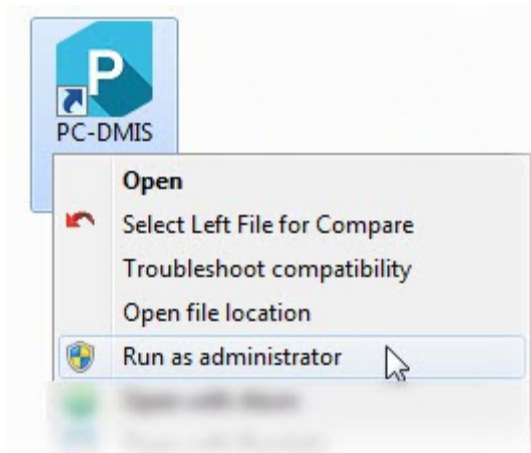
Run as administrator option

This allows the program to write the needed machine-specific settings.

3. If your previous version used the pcdlrn.ini file, PC-DMIS 2017 R2 asks if the settings in your PCDLRN.INI file should be used as your registry settings. Click **Yes** at the prompt. Otherwise, PC-DMIS 2017 R2 loads in the factory defaults.

   If your previous version used the Settings Editor, do the following to use your previous software settings:

   a. Close PC-DMIS 2017 R2.
   b. Launch the PC-DMIS Settings Editor from the Start menu.

       c. Once it opens, click **Import**, and open the PCDRegFile.dat file you backed up in the "[Step 3: Back Up Existing Settings](#)" section of this document. PC-DMIS 2017 R2 imports your settings.

       d. Close the PC-DMIS Settings Editor.

4. When you launch PC-DMIS 2017 R2, the **What's New** information appears in your default web browser. You can also choose to display the **What's New** information after you launch PC-DMIS 2017 R2. To do this, click **Help | What's New**.

Subsequent Startups

For subsequent startups, you can launch PC-DMIS 2017 R2 normally by double-clicking the usual **Offline** or **Online** shortcut:
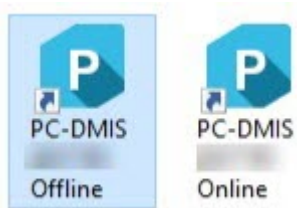
PC-DMIS 2017 R2 shortcuts

Once PC-DMIS 2017 R2 starts, the **Software License** screen displays the current license agreement. Read the agreement carefully and then at the bottom, click **I agree with the License terms and conditions** to proceed:
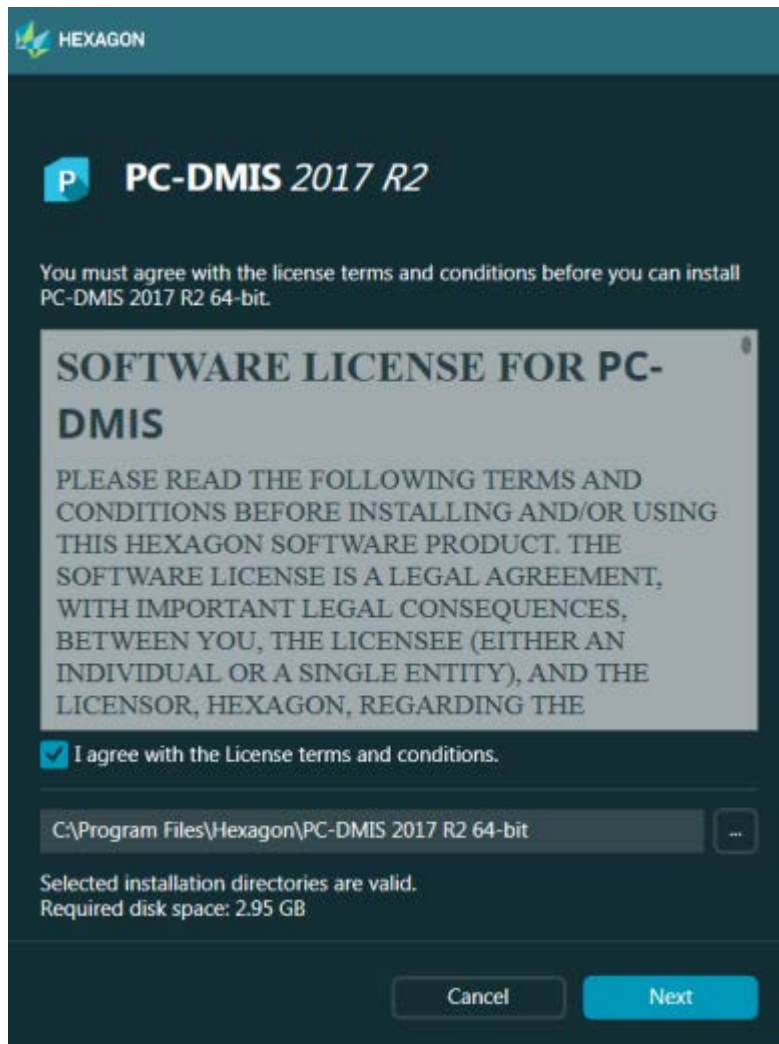
Software License screen

Once PC-DMIS 2017 R2 runs, an icon displays in your system tray. If your portlock or license is programmed correctly, the icon displays a green check mark as shown below:
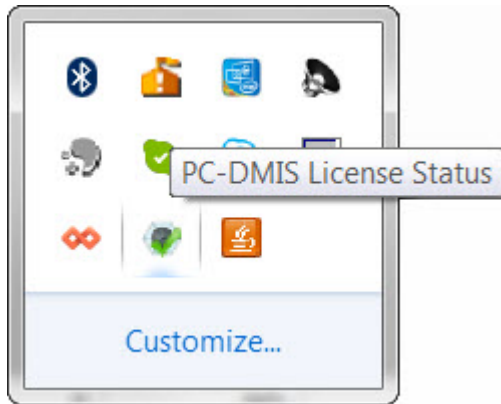
Valid PC-DMIS license message

If your portlock is not connected or is not programmed correctly, or if you are using an LMS license and your software has not been properly licensed, the icon appears with a red exclamation point overlay. A pop-up message says that the license is disconnected:

Disconnected PC-DMIS license message

If the license is disconnected, PC-DMIS 2017 R2 functions normally, but after 5 minutes, it automatically closes. Be sure to save your data immediately before this occurs.

Note About CMMs Using RS-232 Communications

By default, PC-DMIS 2017 R2 communicates through the COM1 communications port. You need to change this port number to the number that Windows automatically created if a serial-to-USB adapter cable or serial adapter card was installed for communicating with an older RS-232 CMM.

To change the COM port number:

1. In Windows Device Manager, note the number that Windows assigned to the communications port on your computer. For help, refer to Windows Help.
2. Open PC-DMIS in online mode, and then open a measurement routine.
3. Select **Edit | Preferences | Machine Interface Setup**.
4. In the **Comm port** box, enter the port number from Windows Device Manager.

Updating the Software

By default, PC-DMIS automatically checks for software updates if you are connected to the Internet. If it detects that an update is available, the HEXAGON UPDATES application opens to inform you of the update. You can then download and install these updates.

You can also manually check for updates. To do this, select **Help | Check for Updates** and then select the desired options in the HEXAGON UPDATES updater application.

The HEXAGON UPDATES updater application contains the **Settings** dialog box. You can use the **I would like to participate** option in the dialog box to choose whether or not to join the Hexagon Customer Experience Improvement Program and send usage data to Hexagon Manufacturing Intelligence. Hexagon Manufacturing Intelligence uses this data to improve the user experience. For more information about this program, visit the Hexagon Customer Experience Improvement Program web site.

For more information on the updater application, see "Updating the Software" in the PC-DMIS Core documentation.

Repairing or Removing an Installation

You can also repair or remove an installation as needed once you install it. To do this, double-click the Pcdmis2017_R2_Release_##.#.###.#_x64.exe file as if you were beginning the installation process. The setup displays a screen with these options:
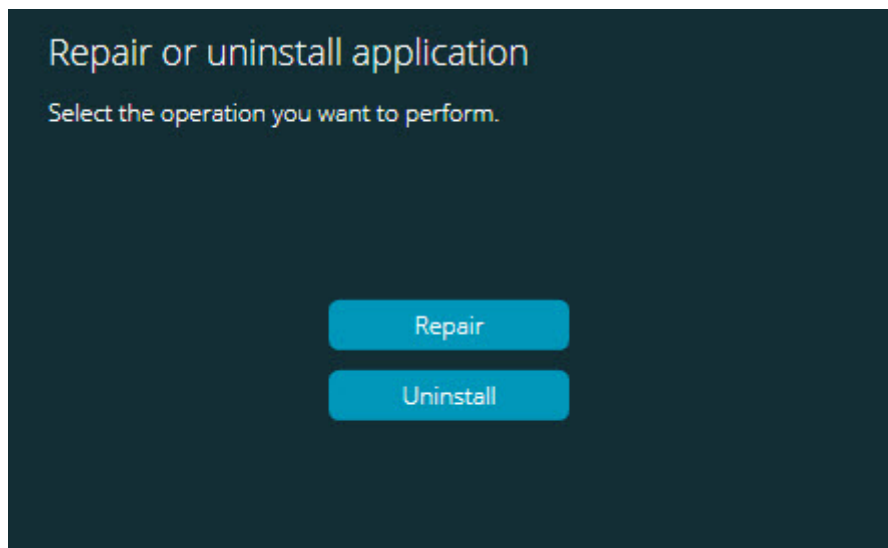
Repair or uninstall application screen

- **Repair** - This option reinstalls all of the product files as they were originally installed. This option may help resolve issues where an installation didn't properly install all of the files.
- **Uninstall** - This option removes the application from where you installed it. You can also use the **Programs and Features** control panel item in Control Panel to uninstall the application.

Running the Software in Another Language

The initial installation setup file for PC-DMIS 2017 R2 contains the user-interface files for all of the supported languages. When you install PC-DMIS 2017 R2, it installs the language files based on your operating system's language.

To run PC-DMIS 2017 R2 in a language other than the operating system's language, select **File | Language**, and then click the desired language. PC-DMIS shows a message that says the application will be shut down and restarted. Click Yes to continue. PC-DMIS 2017 R2 immediately closes and then reopens in the selected language.

To get the help content available in a non-English language, see "Installing Non-English Help Files from Language Packs".

Installing Non-English Help Files from Language Packs

The English help files are the only help files included in the main installation package. They are installed regardless of the installation language. However, non-English help files are not included in the main installation file.

This means that if you install a non-English language, or if you switch to a non-English language, in order to see any help content at all, you *must* also install a language pack for that language. Otherwise, if you try to access the help file, PC-DMIS 2017 R2 displays an error message indicating that it cannot find the help file.

A language pack contains all of the help content for that language. To install a language pack, do the following:

1. Locate the desired language pack (and .exe file) on your installation media or download it from the Internet here:

    ftp://ftp.wilcoxassoc.com/PC-DMIS-Versions/Release/2017_R2/Release/x64/Lang/

2. Run the .exe file and follow the setup instructions. You do not need to have administrator access to do this step.

This procedure installs the help content into the appropriate two-letter language subdirectory where you have PC-DMIS 2017 R2 installed. You can then switch to that language in the software and access the help content.

Troubleshooting

This topic provides information for you to troubleshoot installation, startup, and software update problems.

Startup is Slow

Problem: You use a computer with at least the recommended system requirements as detailed in the "Recommended System Requirements" topic, and it takes longer than 30 seconds to launch the software.

Description: This happens if you try to run PC-DMIS 2017 R2 on a Windows 7 computer, but you didn't mark **Run as administrator** on the installation wizard. This results in a problem loading the HASP driver. Note that this problem only occurs when you install with a HASP license type, as discussed in "Step 4: Install the Software".

Solution: Uninstall PC-DMIS 2017 R2 and then reinstall it by right-clicking on the installation file and choosing **Run as administrator**.

Updating the Software Results in a "(407) Proxy Authentication Required" Message

Problem: You use the **Help | Check for Updates** menu option to update the software, and when the Web Updater opens, it shows: "The remote server returned an error: (407) Proxy Authentication Required."

Description: A firewall on your computer may be blocking the updater from connecting to the server.

Solution: Check your firewall's settings and ensure that the following address is not blocked: **http://www.wilcoxassoc.com/WebUpdater**

Setting Up the Network to Send Crash Reports

Problem: PC-DMIS 2017 R2 cannot automatically send crash reports to Hexagon Manufacturing Intelligence even when the **/nocrashdump** software configuration switch is not being used. (This switch disables crash reports in PC-DMIS 2017 R2.)

Description: A firewall on your computer may be blocking the updater from connecting to the server. If PC-DMIS 2017 R2 crashes, it uses a PHP script over HTTP to send the crash report. If this fails, it then tries to send the report to crashreport@wilcoxassoc.com. It tries using the standard SMTP email protocol. If that fails, it tries to send the email through MAPI.

Solution: The crash report system needs to be able to use port 80 to get out to the server, **http://www.wilcoxassoc.com**/.

Installing on Top of an Existing Version Results in Unexpected Behavior

Problem: You installed on top of an existing version of the software, and now the software does not behave normally. Potential symptoms include:

- After you start up the software, you get a "Procedure Entry Point" error.
- When you select **Help | About**, it does not show the new build number.
- Reported bug fixes do not seem to be fixed, and PCDLRN.EXE does not have a newer date and time than the original release.

Description: Something did not install properly on top of the existing version.

Solution: Use Control Panel to completely uninstall the existing version and then reinstall the version you're trying to install.

Running the Legacy DPUPDATE.EXE Does Not Work

Problem: The legacy DPUPDATE.EXE does not run.

Description: If you run PC-DMIS 2017 R2 without administrator privileges, DPUPDATE.EXE does not work.

Solution: Run PC-DMIS 2017 R2 with administrator privileges.

Contact Hexagon Manufacturing Intelligence

If you are participating in the *technical preview* of PC-DMIS 2017 R2, please post your feedback in the appropriate technical preview forum located at www.pcdmisforum.com/forum.php. Please do not contact Hexagon Technical Support for technical previews.

If you are using the *commercially released version* of PC-DMIS 2017 R2 and would like further information or technical support, please contact hexagonmi.com/contact-us or visit hexagonmi.com/products/software. You can also reach Hexagon Technical Support by calling (1) (800) 343-7933.

Appendix A

Recommended System Requirements

Attention 32-bit users! PC-DMIS 2017 R2 does not support the 32-bit Windows operating system, regardless of the operating system version number. PC-DMIS 2017 R1 was the final 32-bit version of PC-DMIS supported by Hexagon Manufacturing Intelligence. If you have not already done so, please update your measurement device operating system and hardware (personal computer), if necessary, to a modern 64-bit system with a more current and stable Windows operating system, such as Windows 10, Windows 8.1, or Windows 7.

Customers moving to a modern operating system will benefit from:

- Dramatically enhanced security
- Broad device choice for a mobile workforce
- Higher user productivity
- A lower total cost of ownership through improved management capabilities

Operating System

PC-DMIS 2017 R2 operates under 64-bit Windows 10, Windows 8.1, Windows 8, Windows 7, and Windows Vista. No other operating systems are supported.

> 👁 When you use third-party drivers, you should contact your local Hexagon Manufacturing Intelligence representative to ensure operating system compatibility.
>
> Running PC-DMIS inside a Virtual Machine (VM) is supported only if the VM supports OpenGL 3 or higher.

> ℹ PC-DMIS Vision machines do not support 32-bit and 64-bit Windows 8.
>
> The Matrox Framegrabber PC-DMIS Vision hardware component does not support a 64-bit operating system.

Microsoft .NET Framework

Microsoft .NET Framework 4.6.1 for Windows. If you do not have Microsoft .NET Framework 4.6.1, the PC-DMIS installer will install it for you.

RAM

- 4 GB of RAM or higher (4 GB is the highest amount of memory capable on a 32-bit operating system)

  The size of the CAD data file and the tessellation multiplier value used affect the amount of memory needed. These both affect the amount of tessellated facets needed to display the model. The smaller the tessellation multiplier value used, the more memory needed for the facets. For large CAD models, this could cause an "Out Of Memory" error. If this occurs, the current PC-DMIS session will be left in an unstable state and should be terminated.

The default tessellation multiplier value is 1.0. Setting a tessellation multiplier of 0.1 will result in a 10 to 20 percent increase in the memory required over the default value of 1.0. Decreasing the tessellation multiplier further to 0.01 will result in an additional 50 to 65 percent increase of memory required.

- 1 GB of video RAM

CPU

2 GHZ or higher quad core processor

Graphics

- For desktops: NVIDIA Quadro K620 graphics card
- For laptops: NVIDIA Quadro K1100M graphics card
- For laptops running PC-DMIS with an RS4 laser sensor: NVIDIA Quadro M3000M graphics card with 4 GB of memory

The graphics driver must support OpenGL 3.0 or higher. A warning message appears on PC-DMIS startup if the driver does not support OpenGL 3.0 or if your graphics driver is more than a year old.

Hard Drive

- 2 GB of free hard drive space plus allocated virtual memory of eight times the largest CAD file used
- SSD drive, HDD 10K, or two disks in RAID 0 mode (high-performance hard disk drive)

Display

Screen resolution of 1280 x 1024 or higher

Connectivity

- Two Ethernet ports. This may be required for specific installations in consideration of local needs, including but not limited to CMM systems where one port is required for controller communications and another for intranet/Internet communications.
- Two USB ports
- DVD drive
- HASP key (a physical USB portlock) or a software license

> ℹ️   A HASP key does not act as general-purpose data storage; therefore, you cannot use a HASP key to store (download) arbitrary data from a computer. Similarly, you cannot use a HASP key to put (upload) arbitrary data on a computer. Also, only Hexagon Manufacturing Intelligence applications can read or write to a HASP key; other applications do not have this capability. As a result, you cannot use a HASP key to load and unload data to and from a computer.

Browser

Internet Explorer 10 or later

Anti-Virus Software

Hexagon Manufacturing Intelligence used the Sophos anti-virus tool to test PC-DMIS 2017 R2. The user will need to confirm the performance of any other anti-virus tool.

http://sophos.com/products/enterprise/endpoint/security-and-control/

Solutions for CMMs Using RS-232 Communications

If you are installing PC-DMIS 2017 R2 on a new or existing computer, but you have an older CMM model that uses RS-232 communications, then you will need to install one of these solutions on your computer:

- An external RS-232 serial-to-USB adapter cable plus the serial-to-USB adapter cable driver
- An internal serial adapter card with serial ports

Providing LMS Licensing Information to the Installer from the Command Line

You can send LMS licensing information to the installer by using the command line:

- If the installer is running in silent mode (**-q**) or basic silent mode (**-passive**), and the correct information is provided, everything runs without user interaction. The command switch **-q** displays the progress bar and handles installer errors. The **-passive** switch hides the user interface.
- If the installer is not running in silent mode, the information provided is used to populate the LMS activation form and skip the [license screen](#).
- Provide the **-?** to review additional command line arguments.

Descriptions of the parameters follow, along with examples.

Descriptions

USELMSLICENSING="1" - This flag is useful only if the system already has an LMS license that the user is using. It allows silent mode to work without having to prompt the user for a license choice. If the installer is not running in silent mode, it still allows the install process to skip the license type selection dialog (thus saving some time).

LMSENTITLEMENTID="*entitlement id*" - This parameter and value are useful on a new system where no LMS license was previously installed. It indicates that the user wants LMS licensing and provides an Entitlement ID to try and activate. When this value is specified, there is no need to specify **USELMSLICENSING**.

LMSLICENSESERVERS="*server1,server2...*" - This parameter is used on systems that communicate with a license server. It also allows the license type selection dialog box to be skipped and the installation to be done silently.

LMSPROXYHOST="*proxyhostaddress*" - This optional parameter gives the address of a proxy host. In silent mode, it is used directly in activation. In non-silent mode, it populates the activation form with this value.

LMSPROXYUSERNAME="*user name*" - This parameter is another optional parameter for the proxy user name. It behaves in the same manner as **LMSPROXYHOST**.

LMSPROXYPASSWORD="*unencrypted password*" - This parameter is another optional parameter for the proxy password. It behaves in the same manner as **LMSPROXYHOST**.

LMSURLTOFNOSERVICES="*URL to FNO server*" - This parameter is mostly for internal development. The default URL is to the production server. The new value can be used to override the default value and point to the development server.

Examples

On a brand-new system with a node-locked Entitlement ID, the following line installs PC-DMIS 2017 R2 in silent mode:

-q LMSENTITLEMENTID="99999-88888-77777-66666-55555"

On a system that already has a license, the following line installs PC-DMIS 2017 R2 in silent mode:

-passive USELMSLICENSING="1"

On a brand-new system using license servers, the following line installs PC-DMIS 2017 R2 in silent mode:

-passive LMSLICENSESERVERS="123.12.134.42"

On a brand-new system with no license, the following line skips the license type selection dialog box and populates the activation form:

LMSENTITLEMENTID="99999-88888-77777-66666-55555"
LMSPROXYHOST="123.123.123.123" LMSPROXYUSERNAME="bob"
LMSPROXYPASSWORD="marley"

Appendix B

Understanding File Locations

The default file locations (path locations) for various user-specific settings and other files have changed in PC-DMIS 2017 R2 and later. These files are now stored in the following locations, based on each file's role.

Public Documents
Measurement routine, CAD, probe, and other files:

C:\Users\Public\Public Documents\Hexagon\PC-DMIS\2017 R2

Demo CAD files:

C:\Users\Public\Public Documents\Hexagon\PC-DMIS\2017 R2\CAD

Public Documents (Reporting Directory)
Report template, label template, rule definition, and color definition files:

C:\Users\Public\Public Documents\Hexagon\PC-DMIS\2017 R2\Reporting

Public Documents (Fixturing)
Fixturing files:

C:\Program Files\Hexagon\PC-DMIS 2017 R2 64-bit\Models\QuickFix

Program Data Files [Hidden]
Calibration files (such as comp.dat and compens.dat), setup files (such as tool.dat, toolc.dat, and usrprobe.dat), and other files:

C:\ProgramData\Hexagon\PC-DMIS\2017 R2

User Data Files

Files for toolbar and menu layout, lighting and materials, and settings:

C:\Users*user name*\AppData\Local\Hexagon\PC-DMIS\2017 R2

Where *user name* is your window's logon user name.

Also see "Understanding the .DAT Files" in the PC-DMIS Core documentation for more specific information on data files.

> ℹ️   In addition, you can use the Settings Editor application to back up, restore, or clear user-specific files and settings. Rather than manually deleting or restoring individual files on your own, we recommend that you use the tools provided in Settings Editor instead. For more information, refer to the Settings Editor help file.

Required User Access Rights

PC-DMIS 2017 R2 requires read, write, and create access to the locations defined below in the file system and registry.

File System

Windows 10, Windows 8, Windows 7, and Windows Vista:

- C:\ProgramData\Hexagon\PC-DMIS\2017 R2
- C:\Users\Public\Documents\Hexagon\PC-DMIS\2017 R2
- C:\Users\UserName\AppData\Local\Hexagon\PC-DMIS\2017 R2
- Any user-specified folder locations for storing measurement routines, probes, subroutines, and so on

Registry

All of these versions have their own registry settings, which are stored in a version-specific key. The items shown below are for version 2017 R2.

- HKEY_LOCAL_MACHINE\SOFTWARE\Wow6432Node\Hexagon\PC-DMIS\2017 R2 Key and all sub keys
- HKEY_CURRENT_USER\Software\Hexagon\PC-DMIS\2017 R2 and all sub keys
- HKEY_USERS\.DEFAULT\Software\Hexagon\PC-DMIS\2017 R2 and all sub keys

Notes

The first time you run a new version, PC-DMIS automatically copies the settings from the most recent version of PC-DMIS that is installed. For this to work, PC-DMIS needs to run with administrator privileges the first time you run it. During the installation, if you select the **Launch PC-DMIS** check box in the setup wizard, it runs PC-DMIS as an administrator and completes this first step.

This initial migration automatically sets read, write, and create permissions on the registry for the relevant keys.

If you are using fixturing or laser sensors, the following registry keys are stored back one level:

- HKEY_LOCAL_MACHINE\SOFTWARE\Hexagon\FxtServer
- HKEY_LOCAL_MACHINE\SOFTWARE\Hexagon\PC-DMIS\NCSENSORSETTINGS
- It may be easier to just apply create/read/write privileges to the HKEY_LOCAL_MACHINE\SOFTWARE\Hexagon\ key and all sub keys to cover these also.

Appendix C

First-Time Installation with Flexible Fixturing

To be compliant with the permission rules for PC-DMIS products, files associated with fixturing are now located in this folder:

C:\Program Files\Hexagon\PC-DMIS 2017 R2 64-bit\Models\QuickFix

This allows access to the files without needing administrator privileges on the computer running PC-DMIS. To accomplish this, the following steps are required when you install PC-DMIS for the first time:

1. The first time you install PC-DMIS and FxtServerInterface, run the FxtServerInterface installation program for the first time with administrator privileges (as is required for the PC-DMIS installation).
2. When you run FxtServerInterface, a message states that the system will migrate all of your data files to the "FIVEUNIQUE" Documents folder described above.

   - If you choose **Yes**, the files are moved, and the original folder is deleted.
   - If you choose **No**, the files are copied, but the original folder is kept.

   Once this is done, the files are moved (or copied), and you are able to run FxtServerInterface.exe without administrator privileges.