



HEXAGON
MANUFACTURING INTELLIGENCE

PC-DMIS 2017 R1 - Hexagon Manufacturing Intelligence
- Release Notes -

P

PC-DMIS CAD++ Version 2017 R1
x64 Build # 1513

Hexagon Manufacturing Intelligence

www.hexagonmi.com

[View License Details](#)

 © 2016 Hexagon Metrology, Inc.
This program is protected by U.S. and International copyright laws

- This page intentionally left blank -

Table of Contents

Recommended System Requirements	1
Operating System.....	1
.NET Framework	2
RAM	2
CPU	2
Graphics.....	2
Hard Drive	2
Display	2
Connectivity.....	3
Browser.....	3
Anti-Virus Software.....	3
Solutions for CMMs Using RS-232 Communications	3
Information about this Release.....	4
New Product Information.....	5
2017 R1 SP2 Release	5
2017 R1 SP1 Release	5
2017 R1 Release.....	5
About the PC-DMIS 64-Bit Version	5
Running the PC-DMIS Universal Jogbox Utility	5
Release Notes - 2017 R1 SP2	7
Release Notes - 2017 R1 SP1	8
Release Notes - 2017 R1	11
Featured Items	11
Auto Features.....	15
CAD	15
CMS / CMM.....	16
Constructed Features	16
DCI and DCT.....	16
GD&T Selection.....	16
Graphics.....	17
Help / Documentation	17
Installation	18
Laser Feature Extraction	18
Paste with Pattern	18
Path Optimization	18
Pointclouds.....	18
Probe Changers	20
Probe Toolbox.....	20
Probes.....	20
Reporting.....	20
Scanning	20
Toolkit.....	21
User Interface.....	21
Installing PC-DMIS.....	22
Step 1: Check System and Hardware Requirements	22
Step 2: Log on as an Administrator.....	22
Step 3: Back Up Existing Settings	22

Backing Up Machine Files for an Xcel CMM or a Sharpe Controller	24
Backing Up Machine Files for a CMM with a DEA Controller	24
Step 4: Install PC-DMIS	25
LMS License Setup	27
Administrator Privileges Explained	29
Step 5: Copy Files after Installation	30
Copying Machine Files for an Xcel CMM or a Sharpe Controller	30
Copying Machine Files for a DEA CMM with a DEA Controller	30
Step 6: Launch PC-DMIS for the First Time	31
Note About CMMs Using RS-232 Communications	33
Updating the Software	33
Repairing or Removing an Installation	34
Running PC-DMIS in Another Language	35
Installing Non-English Help Files from Language Packs	35
Troubleshooting	36
PC-DMIS Startup is Slow	36
Updating the Software Results in a "(407) Proxy Authentication Required" Message	36
Setting Up the Network to Send Crash Reports	36
Installing on Top of an Existing Version Results in Unexpected Behavior	37
Running the Legacy DPUPDATE.EXE Does Not Work	37
Contact Hexagon Manufacturing Intelligence	37
Appendix A	38
Providing LMS Licensing Information to the Installer from the Command Line	38
Appendix B	40
Understanding File Locations	40
Public Documents	40
Public Documents (Reporting Directory)	40
Public Documents (Fixturing)	40
Program Data Files [Hidden]	40
User Data Files	40
Required User Access Rights	40
File System	41
Registry	41
Notes	41
Appendix C	42
First-Time PC-DMIS Installation with Flexible Fixturing	42

Recommended System Requirements

Attention 32-bit users! PC-DMIS 2017 R2 will no longer support the 32-bit Windows operating system, regardless of the operating system version number. PC-DMIS 2017 R1 will be 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 R1 operates under the following:

- 32-bit and 64-bit Windows 10
- 32-bit and 64-bit Windows 8.1 and 8
- 32-bit and 64-bit Windows 7
- 32-bit and 64-bit Vista

No other operating systems are supported.

IMPORTANT:

- When using 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 not supported.

Notes:

- 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.

Advantages of 64-bit:

- Customers with the x64-bit version of CAD packages need the 64-bit version of PC-DMIS in order to use Direct CAD Interfaces (DCI) to connect to the packages.
- The 64-bit version of PC-DMIS can use all of the physical memory that is available on the computer. The 32-bit version of PC-DMIS can only use the first 2 GB. Therefore, customers with large CAD or measurement routines are advised to use the x64-bit version.

.NET Framework

Microsoft .NET Framework 4.6.1 for Windows

- If you do not have .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 OS)

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 Duo-Core processor

Graphics

- For desktops: Nvidia Quadro K620 graphics card
- For laptops: Nvidia Quadro K1100M graphics card
- 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 8 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

- 2 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.)
- 2 USB ports
- DVD drive
- HASP key (a physical USB portlock) or a software license

Note: 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 version 10 or later

Anti-Virus Software

Wilcox Associates Inc. used the Sophos Anti-virus tool to test PC-DMIS. 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 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

Information about this Release

We at Hexagon Manufacturing Intelligence are proud to bring you PC-DMIS 2017 R1. This platform brings together new aspects of PC-DMIS for the development of a complete manufacturing process control solution. Available in this release are variations of PC-DMIS 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 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 is comprised 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 that is operating in the field running PC-DMIS. 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 R1, 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. See "[Contact Hexagon Manufacturing Intelligence](#)" on how to report any integration problems. Should such a problem materialize on a commercial release, you will be given the highest priority for correcting these problems.

For existing users of PC-DMIS who currently have earlier versions of PC-DMIS installed, it is advised that PC-DMIS 2017 R1 be installed 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

2017 R1 SP2 Release

Version 2017 R1 SP2 is a Service Pack release of the software. For a listing of the enhancements and fixes in this release, refer to "[Release Notes - 2017 R1 SP2](#)".

2017 R1 SP1 Release

Version 2017 R1 SP1 is a Service Pack release of the software. For a listing of the enhancements and fixes in this release, refer to "[Release Notes - 2017 R1 SP1](#)".

2017 R1 Release

The 64-bit version of PC-DMIS is only supported on Windows 10, Windows 8.1, Windows 8, Windows 7, and Windows Vista.

For a listing of the enhancements for the 2017 R1 Release, refer to "[Release Notes - 2017 R1](#)". For detailed information and videos tutorials regarding the enhancements, log on to hexagonmi.com/products/software.

About the PC-DMIS 64-Bit Version

The following items are only supported in the 32-bit (x86) version of the software; they are not available in the 64-bit version.

- CAD (3D ACIS data embedded inside of DXF Files)
- Translators (Aval, Datalog, MeasureMax, MMIV, and Tutor)
- NC product line
- 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**.

PC-DMIS 2017 R1 Release Notes

- 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.

Release Notes - 2017 R1 SP2

- HNC-390 - Fixed an issue where sometimes the light tower wasn't detected if the device drivers were incorrectly installed.
- HNC-396 - Included a light tower device scan tool to aide with diagnosing connection problems.
- PCD-95046, PCD-116879 - Resolved an issue that could have caused some commands to revert to default settings when edited.
- PCD-99766 - Fixed an issue where a CAD file may have increased in size when the file was imported as a reference and then saved as a different name.
- PCD-109666 - Fixed an issue where the deviations on the **Results** tab in the Tracker **Bundle Alignment** dialog box did not display.
- PCD-112024 - Fixed an issue where PC-DMIS stopped working when the cursor was in a new line at the end of a measurement routine and CTRL+E was pressed.
- PCD-112429 - Fixed an issue where all features in the list in the **Delete Feature(s)** dialog box were selected when the box-select method was used in the Graphic Display window to select only a few features.
- PCD-113430 - Restored the **Join the Hexagon Customer Experience Improvement Program** check box to the installer.
- PCD-113512 - Fixed an issue where a variable used in an alignment was not marked during the execution of a feature-based measurement routine.
- PCD-114246 - Fixed an issue with the Vision quick feature line edge vector. When the feature was created, the theoretical, actual, and target edge vector values were incorrect, but the actual value was corrected when the feature was executed.
- PCD-114805 - Fixed an issue where quick features taught in the Live View after a CAD alignment used machine coordinates.
- PCD-115540 - Fixed an issue where random clicks around the application with the **Iterative Alignment** dialog box open caused PC-DMIS to stop working.
- PCD-115574 - Fixed an issue where too much time was needed to open the Laser Auto Feature dialog box or the Probe Toolbox when using an HP-L20.8 scanner with the Romer toolkit RDS 4.2.
- PCD-115912 - Fixed an issue where laser features lost the referenced point cloud feature when the cursor was moved in the Edit window.
- PCD-116148 - Fixed an issue where the NX DCI timed out when it started for the first time; the second attempt worked. The startup procedure now attempts to reconnect multiple times. If it is unable to reconnect after five attempts, an error message appears.
- PCD-116657 - Fixed an issue where the gain setting for laser scans did not change correctly.
- PCD-116664 - Fixed an issue where CWS surface points were converted into feature-extracted points from a COP when a measurement routine that was created in a version prior to 2016 was opened.
- PCD-117042 - Fixed an issue where the computer appeared to lock up when a New Marked Set was created and the inspection routine also included pointcloud commands.

Release Notes - 2017 R1 SP1

- PCD-31966 - Fixed an issue where some critical formatting characters were improperly carried over from English into the Czech, Korean, and Spanish language packs. This issue may have caused PC-DMIS to stop working.
- PCD-88628 - Added the Quick Start button to the QuickMeasure toolbar for the Tracker LeicaLMF interface.
- PCD-96234 - Fixed the following issues:
 - If you double-clicked on the name of a measurement routine in Windows Explorer, PC-DMIS started but the measurement routine did not open.
 - If you used a command prompt window (cmd.exe) or batch file (.bat or .cmd) to start PC-DMIS, and passed the measurement routine's filename as a command line parameter to open it, PC-DMIS started but the measurement routine did not open.
- PCD-100260 - Fixed a Tracker issue that occurred after you measured with a T-Probe and then loaded a reflector as the active probe. PC-DMIS incorrectly showed "Busy" mode when it performed a measurement with the reflector.
- PCD-100976 - Fixed an issue where the functions could not be selected in the **Pointcloud Operator** dialog box if no COP object existed. Now, you can select the COOPER functions and view settings even if no COP exists. A valid COP object must still exist before you can create a COOPER command.
- PCD-102421 - Fixed an issue where PC-DMIS did not properly save an imported CAD file in a measurement routine when the measurement routine was saved and then opened in a new revision of Teamcenter.
- PCD-103860 - Fixed an issue where if the Exact Dimension option was enabled for pointcloud cross-sections, the lower (-Tolerance) levels of the dimension color scale were incorrectly set to the same color (the out-of-tolerance on the minus-side color). This was visible when the cross section slide show was enabled. The color scale now displays correctly.
- PCD-105106 - Fixed an issue when calculating the Laser Flush and Gap auto feature at a given depth. It was possible, depending on the given depth and the mutual position of the master side and slave side, that relevant points were missed during execution. This caused the flush and gap to not be extracted.
- PCD-106852 - Fixed an issue that caused PC-DMIS to stop working when you generated Microsoft Excel output.
- PCD-107564 - Fixed an issue with the incorrect license being applied to the Amyuni driver while ensuring that the previous PDF printer device is removed and replaced.
- PCD-108966 - Fixed an issue with the pointcloud Surface Colormap operation. Previously, if you selected the **No data color** check box in the **Pointcloud Operator** dialog box, the resulting color was always gray regardless of the color you selected. The color that you select is now correctly applied to areas of the CAD where there is no corresponding pointcloud data.

- PCD-109439 - PC-DMIS 2017 R1 SP1 supports the RS4 Romer Integrated Scanner. If you use this scanner, Hexagon recommends that you enable the **Line Filter** option. To enable the option, select the **Pointcloud Filtering Plane** button on the **Pointcloud** toolbar or **QuickCloud** toolbar; the **Laser Data Collection Settings** dialog box appears. Select the **Line Filter** check box in the dialog box.
- PCD-109690 - Fixed an issue where the annotation points on the pointcloud surface colormap were displayed using the wrong colors when the Dimension Color Scale was set to 200%.
- PCD-109978 - Fixed an issue where PC-DMIS stopped working during a edit operation after you closed the **Find** dialog box or **Replace** dialog box.
- PCD-110947 - Fixed an issue where the **Size** dialog box did not appear in a monitor's viewing area when you changed monitors.
- PCD-111612 - Fixed an issue where a Caliper gage could not be created through the "Constrain" axis method if the data was not aligned to a CAD model.
- PCD-111613 - Fixed an issue where PC-DMIS did not save the value that you entered for the **Nominal** option on the **Label/Reporting** tab in the **Gage** dialog box when you created a Caliper gage without a CAD model.
- PCD-111622 - Fixed an issue where PC-DMIS did not update the caliper label in the Graphic Display window when you typed a new ID in the **Gage** dialog box.
- PCD-111895 - Fixed an issue where the **Probe Utilities** dialog box opened and was visible each time an Automation application represented a probe collection object due to the actual implementation. This may have caused the dialog box to flash with some applications that immediate hide, such as INSPECT. The dialog box no longer flashes when the probe collection object is represented and when the Application.MMSInspectConnected property is set to True.
- PCD-112270 - Fixed an issue where the standard message "Do you want to make this ID the default?" did not appear when you changed the name of a caliper.
- PCD-112334 - Fixed an issue where subroutines did not correctly pass variables back to the parent measurement routine.
- PCD-112538 - Fixed an application error when the Ctrl+Left mouse button was used in the Edit window.
- PCD-112580 - Fixed an issue where probing forces specified by a user with an OPTIONPROBE command in the measurement routine were not always used correctly during VFT (Vibration Free Transmission) style of probe calibration.
- PCD-113260 - Fixed an issue where section scans were created with a different number of hits than expected.
- PCD-113315 - Fixed an issue where PC-DMIS appeared to stop working while tessellating surfaces and the NX DCI appeared to stopped working under certain conditions. This affected a small number of files.
- PCD-113475, PCD-114066 - Fixed an issue where text in the **What's New** dialog box was not localized.
- PCD-113891 - Fixed an issue where the part model and probe transparency options on the **Lighting** and **Material** tabs in the **CAD and Graphic Setup** dialog box did not work correctly.

PC-DMIS 2017 R1 Release Notes

- PCD-113960 - Fixed an issue where the Pointcloud cross section feature moved at twice the value of the translation when a Pointcloud cross section within a LOOP command with coordinate translation was used.
- PCD-113966 - Fixed an issue where the Romer integrated scanner stopped working when you started a scan in the PC-DMIS Swedish language pack. Also fixed an issue where the measurement routine would not execute when you created an Inspection Plan in the English language and then changed the language to Italian or another language.
- PCD-114373 - Fixed an issue where clicking on an FCF dimension embedded in the CAD model after it had been used previously would cause an application crash.
- PCD-114640 - Fixed an issue with the depth for the contact "find hole" property when the measurement routine's unit of measure was INCH.
- PCD-114641 - Fixed an issue where a part was incomplete when an NX assembly was loaded.
- PCD-114731 - Fixed an issue where PC-DMIS incorrectly hid the pointcloud after each scan pass when you re-executed an Inspection Plan that had a Pointcloud Surface Colormap. The complete pointcloud now appears when you re-execute an Inspection Plan.
- PCDNC-1431 - Added a tooltip to the **Execute Journal File** dialog box so that you can view the entire part name.
- PCDNC-2011 - Fixed a looping issue in the NCFanuc interface.
- PCDNC-2049 - Fixed an issue where the PC-DMIS NC installation directories were not created by default.
- PCDNC-2057 - CTRLRDEFAULTS.dll no longer needs to be registered before starting CNCServer.

Release Notes - 2017 R1

Version 2017 R1 is a significant development release of the software.

Featured Items

Live View Illumination Overlay

The Live View Illumination Overlay on the **Live View** tab in PC-DMIS Vision (**Edit | Graphic Display Window | Live View Setup**) was improved as follows:

- Added the ability to select the ring and sector quicker and easier.
- Added the ability to use the mouse scroll wheel to control illumination.

In addition, the Probe Toolbox was updated to match the Live Image View overlay.

For complete information, refer to "Live View" and the associated subtopics in the PC-DMIS Vision documentation.

Quick Features in Live View

The option of creating features in Live View without the need to open the **Auto Feature** dialog box was added to PC-DMIS Vision. This makes it easier to create measurement routines or perform quick and simple measurement tasks.

Live View supports these features: Circle, Edge Point, Line, and Surface Point.

The rules and parameters for creating Quick Features in Live View are identical to those in CAD View. Other rules and parameters apply only when you use Quick Features in Live View.

For complete information, refer to "Implementing Quick Features in PC-DMIS Vision Live View" in the PC-DMIS Vision documentation.

Teamcenter Implemented in PC-DMIS

Teamcenter is an MMS (Metrology Management System) database package developed by Siemens. To enable or disable a connection to the Teamcenter software, select **File | Teamcenter**.

For information on working with Teamcenter, refer to "Using Teamcenter" in the "Direct CAD Interfaces and Translators" documentation.

"Size" Command

The new Size command supports feature of size specifications per the ASME Y14.5 - 2009 and ISO 14405-1:2010 standards.

ASME Y14.5 - 2009

- Unrelated Actual Mating Envelope (URAME)
- Local size

ISO 14405-1:2010

- Local size
- Global size
- Calculated size
- Rank-order size

For complete information, refer to "Dimensioning Size" in the PC-DMIS Core documentation.

Quick Features with Feature-Sensor Mapping

You can use Quick Features to complete the options in the **Feature - Sensor Mapping** dialog box. To begin, choose **Edit | Preferences | Feature-Sensor Mapping**. This opens an empty dialog box. You can then use Quick Features to populate the dialog box.

For complete information, refer to "Mapping Features to Sensors" and "Creating Quick Features" in the PC-DMIS Core documentation.

Excluding CAD GD&T Callouts

Some CAD GD&T callouts that are embedded inside of the CAD model are not intended for CMM measurement. PC-DMIS now has an "exclude" system that you can use to mark the callouts that are not intended for measurement. To use the system, select **Edit | Graphic Display Window | CAD GD&T | CAD GD&T** tab.

You can select a different color for the excluded callouts or hide them.

The <measurement routine>.exclude file (where <measurement routine> is the name of your current measurement routine) drives this system. Use the tools on the **CAD GD&T** tab to create the file.

For complete information, refer to "Working with CAD GD&T Callouts" and "CAD GD&T Tab" in the PC-DMIS Core documentation.

NOTIFICATION CENTER

NOTIFICATION CENTER is a new applet that controls the built-in lights on certain newer CMM models (e.g., Evo) based on events from PC-DMIS. Events include errors, warnings, and parts in or out of tolerance.

You can access NOTIFICATION CENTER from an icon on the Windows taskbar, and configure the color light to use for each event. You can also configure it to play sound events.

Please give it a try and leave ideas for features at <https://hexagonmi.userecho.com/forums/5-notification-center/>.

INSPECT

INSPECT is an all-new shop floor interface for PC-DMIS. It is designed to make it easy for CMM operators to run complex inspection routines while protecting the integrity of the resulting data and program code.

A simple, modern interface guides operators to the correct measurement routine with graphic tiles, while providing a simple interface for probe qualification and a single tab for measurement report analysis and archiving. Customers who use Smart Quality will have the added benefit of revision-controlled measurement routines and measurement report archival with INSPECT integration.

Please give it a try and leave ideas for features at <https://hexagonmi.userecho.com/forums/4-inspect/>.

Laser Feature Extraction

The extraction algorithm for 3D and 2D laser features in PC-DMIS Laser now takes into account the normal vector direction of the points within the extraction zone. This algorithm provides a more accurate result.

The **Remove points with normals outside: Max incidence angle** check box was added to the **Feature Extraction** tab in the Laser Auto Feature dialog box. This setting is available for these laser auto features:

- 3D features: Surface Point, Edge Point, Plane, Cylinder, Cone, Sphere, and Flush and Gap
- 2D features: Circle, Round Slot, Square Slot, and Polygon

If you select the **Remove points with normals outside** check box, PC-DMIS compares the estimated normal of each scanned point within the clipping zone to the feature theoretical normal (or CAD surface for 3D features). It determines the estimated normals of the scanned points from the sensor orientation. This new filter is useful for excluding points on the opposite side of the part or on adjacent surfaces.

When PC-DMIS measures the laser feature, it uses the filter to exclude those points. The smaller the value for the **Max incidence angle** option, the more points are excluded.

For information and examples on excluding points, refer to "Filters", "3D Features Using the Max Incidence Angle", and "2D Features Using the Max Incidence Angle" in the PC-DMIS Laser documentation.

Caliper Tool

The Caliper tool provides a local, 2-point size check on a pointcloud or mesh object, with or without a 3D CAD model. Dimension the Caliper from the **Label/Reporting** tab to show the caliper length in the report.

The Caliper tool has two tips that measure the distance between two opposing sides. The caliper tip has a user-defined size. To select the start and end points, click in the Graphic Display window. Using the data within the tip size, the caliper end points stop at the high points on the selected surfaces. An optional best fit method can also be used. The software performs a "search distance" along the caliper axis to determine the relevant points.

The Caliper tool is only available if your PC-DMIS license includes the Small COP or Big COP option.

To use the tool, select **Insert | Gage | Caliper** to open the **Caliper** dialog box. You can also click the **Caliper** button on the **QuickMeasure** toolbar or **QuickCloud** toolbar.

For complete information, refer to "Caliper Feature Overview" in the PC-DMIS Laser documentation.

Quick Scan Functionality

Quick Scan functionality, as its name indicates, creates a scan from the CAD with one click. Quick Scan creates a Linear Open scan on one surface or polyline.

To create a Linear Open scan on one surface, press Ctrl+Shift on any surface, click at the start point, and drag until you reach the desired end point of the scan.

You can use the section cut feature of PC-DMIS or the CAD to create a polyline. On a polyline, press Ctrl+Shift, click at the start point, and drag in the direction of the scan.

Quick Scan creates a Touch Trigger Probe (TTP) scan or a continuous scan based on the type of probe you are using. The point spacing for the scan is based on the scan density.

For more information, refer to "Creating Quick Scans" in the PC-DMIS CMM documentation.

Auto Features

- PCD-98552, PCD-101353 - Improved the Live View Illumination Overlay on the **Live View** tab in PC-DMIS Vision. For details, see "[Featured Items](#)".
- PCD-84268 - Added the option of creating features in the Live View in PC-DMIS Vision without the need to open the **Auto Feature** dialog box. For details, see "[Featured Items](#)".
- PCD-87187 - If your measurement routine contains a measurement strategy, PC-DMIS converts the strategy to a comment if you save the measurement routine to a previous version of PC-DMIS that does not support the strategy.
- PCD-95833 - Added support for PCI and PCIe control cards in PC-DMIS Vision.
- PCD-38961 - Removed the non-applicable and non-editable options from the tabs in the Probe Toolbox in PC-DMIS Vision (**View | Other Windows | Probe Toolbox**).
- PCD-97213 - Added new sensor control hardware for illumination and zoom (Vision Box) in PC-DMIS Vision.
- PCD-98556 - Added the ability to select a frequency from a drop-down list in the following locations when a Chromatic White Light Sensor (CWS) is the active probe in PC-DMIS Vision:
 - **Hit Targets** tab in the Probe Toolbox
 - Command View editor
 - Summary View editor

Previously, you had to type the frequency.

- PCD-99047 - Simplified PC-DMIS Vision by hiding the **Gage** tab in the Probe Toolbox when you open the **Auto Feature** dialog box.
- PCD-99048 - Changed the **Focus** tab in the Probe Toolbox in PC-DMIS Vision so that the tab becomes visible after you perform a SensiFocus. This enables you to perform a quick inspection of the focus graph.

CAD

- PCD-98157 - Implemented Teamcenter into PC-DMIS. For details, see "[Featured Items](#)".
- PCD-22046, PCD-98838 - Added support for the Characteristic ID for Pro/E and NX files. When this separately-licensed option is activated, dimension commands are named with the PMI note Characteristic ID. This is extracted from the CAD model. It provides direct traceability between the CAD file and the PC-DMIS report.
- PCD-99762 - Added CATIA V5 DCI support for R26.
- PCD-101178 - Added CATIA V5 DCT support for R26.
- PCD-101410 - Added feature icons to the **Feature - Sensor Mapping** dialog box (**Edit | Preferences | Feature-Sensor Mapping**). You can use the icons to filter according to the feature type.

CMS / CMM

- PCD-98949 - Added the Global 5-5-5 Machine Model for selection in PC-DMIS.
- PCD-103643 - Removed the **Reset Log at Start of Execution** check box from the **Debug** tab in the **Machine Options** dialog box (**Edit | Preferences | Machine Interface Setup**).

The `DebugLogReset` registry entry was added to the Settings Editor application. You can use this registry entry to specify the contents of the debug file that contains all of the communication data between PC-DMIS and the CMM. The default value is FALSE (PC-DMIS appends new data to the file instead of overwriting all existing data each time you execute a measurement routine).

- PCD-104225 - If a measurement routine contains commands that a previous version of PC-DMIS does not support, PC-DMIS converts them to comments and displays the **Commands Not Supported Converted to Comments** dialog box when you choose to save the measurement routine to the previous version. This dialog box lists the commands that PC-DMIS converted to comments. You can choose to save the data to a text file. You may also modify the affected command with an alternate command in the previous version.

Constructed Features

- PCD-99167 - Added the Constructed Tangent Plane command. This command supports math options for datum planes per ASME Y14.5 and ISO 5459.

DCI and DCT

- PCD-99097 - Enabled PC-DMIS to produce a log file when you use the Unigraphics (NX) Direct CAD Interface (DCI) and set the `DebugDCI` registry entry in the Settings Editor application to True.
- PCD-100672 - Improved the help section for the Unigraphics (NX) DCI.
- PCD-100647 - Enabled PC-DMIS to integrate with Teamcenter and treat it as a file server. A separate licensing option is required.

GD&T Selection

- PCD-84489 - Added the Size command. For details, see "[Featured Items](#)".
- PCD-98092, PCD-98101 - Added the ability to use Quick Features to complete the options in the **Feature - Sensor Mapping** dialog box (**Edit | Preferences | Feature-Sensor Mapping**). For details, see "[Featured Items](#)".
- PCD-103676 - Added an "exclude" feature to PC-DMIS. This feature enables you to mark CAD GD&T callouts that are not intended for CMM measurement. For details, see "[Featured Items](#)".
- PCD-102369 - When you create a feature command (even if it is through GD&T Selection), the feature labels either do or do not appear depending on the state of the **Toggle Feature Label IDs** icon on the **Graphic Items** toolbar (**View | Toolbars | Graphic Items**).

The **Show All Label IDs** icon was added to the **Graphic Items** toolbar. You can use this icon to hide all of the label types so that they do not fill up the screen when you import selected GD&T callouts.

- PCD-102381 - Added the Characteristic ID to the GD&T Validation report.
- PCD-89778 - Added the following features to CAD GD&T callouts:
 - On the **CAD GD&T** tab in the **CAD and Graphic Setup** dialog box (**Edit | Graphic Display Window | CAD GD&T**), you can set the colors of CAD GD&T callouts that are valid and invalid for GD&T selection.
 - You can right-click on a CAD GD&T callout to display a shortcut menu. The menu's options enable you to set CAD GD&T callouts to colors that indicate the state (selected, selectable, or unselectable) of the current callout.
- PCD-92253 - Added support for GD&T Selection for compound datums.
- PCD-95412 - Enabled the PC-DMIS GD&T verification process to validate that the datum target is a point. Otherwise, the process reports it as a datum target that PC-DMIS does not currently support through GD&T Selection.

Graphics

- PCD-96918 - Improved support for the SpacePilot in PC-DMIS.
- PCD-101189 - Redesigned the **CAD GD&T Font size** slider in the **Font Setup** dialog box (**Edit | Preferences | Fonts**). Each increment above or below the midpoint increases or decreases the font by 10%. The font size dynamically changes as you adjust the slider.
- PCD-104367 - Simplified the Graphic Display window (**Edit | Graphic Display Window**). The display of the GD&T note created by a Feature Control Frame (FCF) command and the GD&T notes included in the CAD model are now mutually exclusive. You can control them through these icons on the **Graphic Items** toolbar:
 - **Toggle Feature Control Frame Label IDs** - If you choose to display FCFs, PC-DMIS hides the CAD GD&T callouts.
 - **Show All Label IDs** - If you choose to display all IDs, and FCF IDs and CAD GD&T callouts are both available, PC-DMIS hides any visible CAD GD&T callouts.

Help / Documentation

- PCD-76317, PCD-101282 - Improved the readability of the PC-DMIS and Gear Help content by creating various note-box related styles in the Help file. Each style also has a unique icon associated with it. These new styles improve the visibility of notes, important notes, hints, examples, code samples, cautions, and warnings.
- PCD-70950 - Improved the look and function of the footer in the PC-DMIS Core Help content. The footer at the bottom of each help topic lets you provide documentation feedback, contact Technical Support, and view company and product information.
- PCD-105219 - Added "Expand all" and "Collapse all" links to the PC-DMIS Help content. "Expand all" shows hidden content, and "Collapse all" hides the expanded content. These links appear at the tops of the help topics that have collapsed content.

Installation

- Modified the PC-DMIS installer to automatically install the following applications:
 - PCD-100200 - NOTIFICATION CENTER. You can use this application to configure events to turn on lights on machines. For details, see "[Featured Items](#)".
 - PCD-100164 - INSPECT. Operators can use this simple shop-floor interface to execute measurement routines. For details, see "[Featured Items](#)".
- PCD-98992 - Enabled the PC-DMIS installer to register specific document-type icons. These icons are associated with these file types:
 - .cad
 - .prg
 - .prb
 - .planxml
 - .planCAD

These icons are used when you browse folders in Windows Explorer.

Laser Feature Extraction

- PCD-54195, PCD-102830 - Improved the Laser Auto Feature extraction properties. For details, see "[Featured Items](#)".

Paste with Pattern

- PCD-103876 - Added the **Flip Feature Order** check box to the **Pattern** dialog box (**Edit | Pattern**). If you select this check box, PC-DMIS reverses the order of the auto features or measured features that you pasted from the clipboard to the Edit window in the Paste with Pattern operation.

Path Optimization

- PCD-98009, PCD-89172 - Added a preview of the improved Optimize Path algorithm in PC-DMIS. To try out this new preview mode, select **Operation | Graphic Display Window | Optimize Path | Preview** and then **Edit | Optimize Path**.

In this preview mode, the **Optimize Path** dialog box was redesigned so that you can use it with this new algorithm.

Pointclouds

- PCD-97938 - Added the Caliper tool, which works similarly to a physical caliper. For details, see "[Featured Items](#)".
- PCD-74396 - Enhanced PC-DMIS to use spline curves to approximate measured (yellow) pointcloud cross sections in order to get better normal estimation and interpolation results.

- PCD-96600 - Added the **INCIDENCE ANGLE** filter type to the **Type** list in the **Pointcloud Operator** dialog box for the Filter operator (**Operation | Pointcloud | Filter**). This filter generates a subset of points that excludes (or filters) points that have a normal vector orientation that falls outside the specified angle, relative to the laser sensor orientation. You can use this filter to remove laser points that are caused by secondary reflections or “noise”. You can see the effect of this filter after you click the **Apply** button in the dialog box.

For you to effectively use this filter, the pointcloud data must have vector information.

- PCD-99841 - Added the **Max Distance to CAD** box to the **Pointcloud Operator** dialog box for the Cross Section operator (**Insert | Pointcloud | Cross Section**). This option specifies the maximum distance of the pointcloud data relative to the nominal CAD model. The default is 2 mm. If the scanned part deviates more than the maximum distance from the CAD model, PC-DMIS may not compute the measured (yellow) cross section.

You can adjust this value to account for large deviations of the scanned data relative to the CAD model. To function correctly, the pointcloud data that you use with this parameter should have normal vector information.

- PCD-104570 - Implemented a new Laser Line Filter, which provides point reduction and smoothing, real-time while scanning. Scanned points are reduced using the **Max Point Spacing** option. To use this feature, click the **Pointcloud Data Collection Parameters** button on the **Pointcloud** toolbar or **QuickCloud** toolbar.
- PCD-104933 - Improved the zoom and rotation when you scan with Portable arms. Scan data now flows more smoothly into the Graphic window. The scanned part rotates in the Graphic window by following the sensor orientation, even when not scanning.

You can turn automatic zoom on and off through the **View | Other Windows | Probe Toolbox** menu item.

- PCD-106617 - Changed the default settings for the pointcloud display. While scanning, the dynamic display has been increased, and previously scanned passes are now shaded. After scanning, the static display has been increased to 2 million points.
- PCD-108148 - Added the `SkipNumberOfStripes` registry entry for laser scanners. The value for this entry specifies the number of scanned lines to skip between each scanned line that appears in the Graphic Display window while executing a laser scan. The values are:

- 0 (zero, the default) - All scanned lines appear in the Graphic Display window while executing a scan.
- Negative integer - No scanned lines appear in the Graphic Display window while executing a scan. The visibility of the scanned lines is turned off during execution. You may prefer this option if you want to improve the execution performance of large measurement routines. Example: -1
- Positive integer - Specifies the number of scanned lines to skip between each scanned line in the Graphic Display window. Examples: If you set the value to "1", one scanned line appears and one scanned line is skipped. If you set the value to "10", one scanned line appears and 10 scanned lines are skipped.

Probe Changers

- PCD-99840 - Changed "garage" and "slot" in the dialog boxes and messages for probe changers to "port" to identify a probe changer's port. Also changed "take a point" to "take a hit" in probe changer messages.
- PCD-102238 - Changed the names of the Hexagon probe heads on the tabs in the **Probe Changer** dialog box (**Edit | Preferences | Probe Changer**) to indicate their capabilities. To help you find the probe changer for your system, the names of the probe changers on the tabs include both the older names and the newer names. The older names appear within parentheses. For example, "LSPX1C" now appears as "LSPX1C / HR-X (HR-X1-P)".

Probe Toolbox

- PCD-103892 - Improved the icons on the tabs in the PC-DMIS Probe Toolbox with a modern look. The icons are larger for high-DPI systems.

Probes

- PCD-105003 - Added the latest IDS uEye driver 4.80 for the migration to Windows 10.

Reporting

- PCD-24705 - Added these reporting enhancements:
 - The **Report Header After PRINT** property to the TextReportObject object
 - The **Header after PRINT command** drop-down list to the **Report** dialog box

You can use these enhancements to specify how PC-DMIS generates a report header after it executes a [PRINT/REPORT](#) command in a measurement routine.

- PCD-97144 - Changed the **Date and time** check box on the **Excel** tab in the **Output Configuration** dialog box (**File | Printing | Report Window Print Setup**) to a list. From this list, you can choose to exclude the date and time from a report's header. You can also choose the format of the date and time (your computer's current format or a 24-hour format).
- PCD-102487 - The TotalPageDimCount, PageDimCount, ReportDimCount, and TotalReportDimCount report expression functions now support TextReportObject. Previously, they only supported CadReportObject.

Scanning

- PCD-54033 - Added Quick Scan functionality. For details, see "[Featured Items](#)".

Toolkit

- PCD-100312 - Leitz controllers, such as the B5, store the parameter sets that measure different types of parts (such as flexible parts). You can now type or select the name of a parameter set for the following options:
 - The **Parameter Set** list in the **Use Parameter Set** dialog box for the Use Parameter Set command (**Insert | Modules | Use Parameter Set**)
 - The **Probing mode** list on the **Probe Options** tab in the **Parameter Settings** dialog box (**Edit | Preferences | Parameters**)
- PCD-103359 - If your measurement routine contains a toolkit command, and you save the measurement routine to a previous version of PC-DMIS that does not support that command, PC-DMIS now converts the command to a comment.
- PCD-103861 - Added the User Defined Path method to the TTP Free Form Plane Strategy. You can use this method to define the hits necessary to measure a plane by clicking on the CAD or taking hits on the machine. To use this feature, select **User Defined Path** in the **Type** list on the strategy's **Path Definition** tab.

User Interface

- PCD-97267 - Added the **Comment** button to the **QuickMeasure** toolbar (**View | Toolbars | QuickMeasure**). This icon enables you to insert different comment types into the measurement routine.
- PCD-100171 - Added the "show and hide" components (CAD, Probe, Machine, Fixture, and Tool Changer) to the **Graphic Items** toolbar and drop-down menus, and the **QuickMeasure** toolbar, so that they are more accessible.
- PCD-100136 - Improved the icons on the CAD View, Live View, and Laser View tabs in the Graphic Display window (**View | Graphic Display Window**) with a modern look.
- PCD-101033 - If you move the PC-DMIS application from one monitor to another, any dialog boxes that you manually moved to be on a different monitor "reset" so that they also appear on the same monitor.
- PCD-101718 - Improved the icons in the **Measurement Strategy Editor** dialog box (**Edit | Preferences | Measurement Strategy Editor**).
- PCD-103874, PCD-104953 - Added these options to the PC-DMIS **Help** menu:
 - **Release Notes** - Opens these release notes inside your PDF viewer.
 - **What's New?** - Displays the **What's New** interface. To scroll through the major new features in this version, click the right arrow.
 - **Idea Center** - Takes you to the new Hexagon Idea Center website, where you can request and vote on new features to include in future versions of PC-DMIS.
 - **PC-DMIS User Forum** - Takes you to the PC-DMIS User Forum website, where you can interact with other users in the community.

Installing PC-DMIS

To install the application, follow these steps:

Step 1: Check System and Hardware Requirements

Before you attempt to install a new PC-DMIS version, ensure that you meet the system and hardware requirements discussed above in "[Recommended System Requirements](#)". You must also have a USB portlock or a 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**.

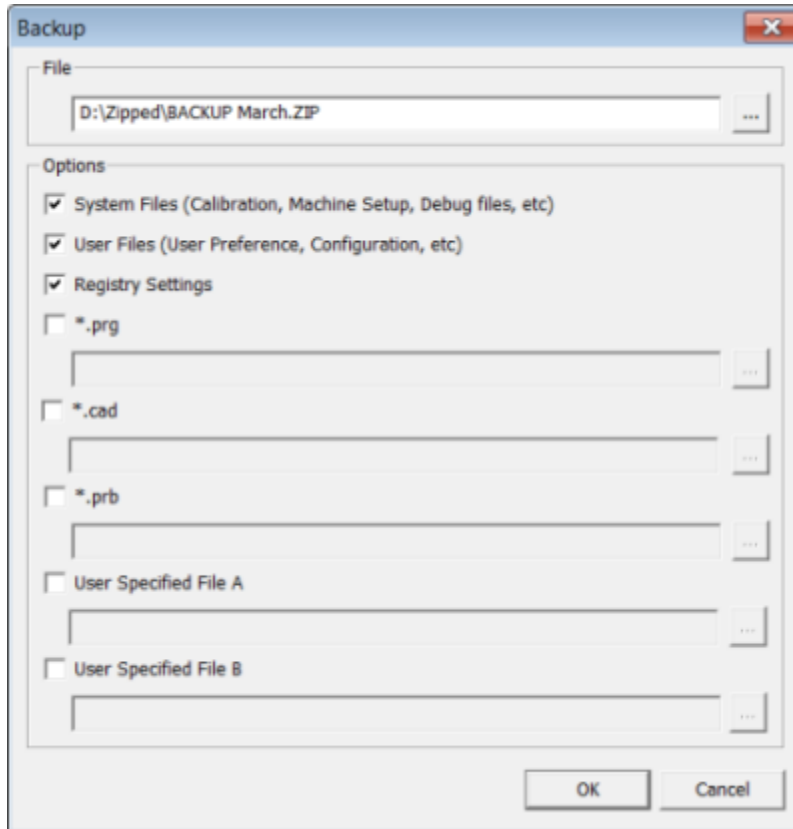
Step 2: Log on as an Administrator

To install and run your new PC-DMIS 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 attempts to migrate existing settings from previous installs on the same computer, even from really old versions of PC-DMIS where settings were stored in the pcdlrm.ini file.

- If your current version uses the pcdlrm.ini file for its settings, back up your pcdlrm.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:



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

If you are replacing your computer or transferring settings that reside on another computer, you can use the Settings Editor's **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 R1 on a new computer, save copies of the following CMM machine files from your previous version to a safe place:

- comp.dat
- downl.oad

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

The location of the PC-DMIS installation (root) directory depends on the operating system and version of PC-DMIS:

- **C:\Program Files (x86)\WAI\PC-DMIS <version>** (if you have a 32-bit version)
- **C:\Program Files\WAI\PC-DMIS <version>** (if you have a 64-bit version)

Where <version> is the 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

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

C:\ProgramData\WAI\PC-DMIS\<version>

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 R1 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
- Fzyfile.txt
- Rcxfile.txt
- Rmxfile.txt
- Any file with your machine's serial number in its name

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

The location of the PC-DMIS installation (root) directory depends on the operating system and version of PC-DMIS:

- **C:\Program Files (x86)\WAI\PC-DMIS <version>** (if you have a 32-bit version)
- **C:\Program Files\WAI\PC-DMIS <version>** (if you have a 64-bit version)

Where <version> is the 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

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

C:\ProgramData\WAI\PC-DMIS\<version>


Step 4: Install PC-DMIS

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

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

Pcdmis2017_R1_Release_##.#.###.#_x##.exe

Where the # symbols represent the specific version numbers and the version type (x64 or x86).

2. Double-click this executable 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, PC-DMIS installs to **C:\Program Files\Hexagon\PC-DMIS 2017 R1** (for 64-bit) or to **C:\Program Files (x86)\Hexagon\PC-DMIS 2017 R1** (for 32-bit).
 - To change the folder, either click on 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. Fill out 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](#)" below.

8. Click **Next** to select the product options and choose to install additional software.

Select the product options:

- To help improve the product and send usage data to Hexagon Manufacturing Intelligence, select the **Join the Hexagon Customer Experience Improvement Program** check box. To opt out of sending usage data, clear the check box.

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

Choose to install additional software:

- **Inspect** - This is an operator interface to PC-DMIS. You can open PC-DMIS 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 reports to PDF outputs.
- **Notification Center** - This application sends notifications from a client application, such as PC-DMIS, to your computer or measurement device. It does this during certain events, such as when the machine has an error.

Note: If you chose a custom installation path, the additional software still installs to your default part programs directory (usually C:\Program Files\Hexagon\).

9. Once you select your product and software options, click **Install** to start the installation. During installation, a progress bar shows the overall progress.
10. When the installation finishes, a screen shows any warnings or errors. It also contains these options:
 - **Launch PC-DMIS** - To launch the application now, select this check box. If this is your first time installing this version of PC-DMIS on this computer, you should do this to initialize needed registry entries initialize. 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.
11. 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 fill out these options:

1. Fill out the **LMS (Software) License** screen:
 - **Entitlement ID** - If you have an Entitlement ID, select this item, and then 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, fill this out. Contact your IT specialist to get this information, and then fill in 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.

Note: For information on how to use CLM Admin, please consult the PC-DMIS CLM Licensing Software documentation ([pcdmisclm.chm](#)). You can find this in the PC-DMIS language subdirectory.

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

LMS License Server



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 <portnumber>@<servername>, where <portnumber> is the TCP port number for the license server and <servername> 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

Important: When using this option, make sure you place the "@" symbol in front of the server address. If the "@" symbol is left off, the install 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

Update your LMS License

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

Click **Yes** to apply the update. If you click **No**, PC-DMIS displays the message every eight hours of running or the next time PC-DMIS 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 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.

Note: After you apply an update, restart PC-DMIS to ensure that PC-DMIS 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

PC-DMIS versions earlier than version 2012 require that you run PC-DMIS 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 built into the setup executable (setup.exe) that requires the setup process to run with administrator privileges. If the current user has lesser privileges, the setup 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, you must launch it with administrator privileges. If you mark the [Launch PC-DMIS after the install finishes check box](#) when installation finishes, PC-DMIS 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 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).

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 R1 on a new computer, copy the backed-up CMM machine files to the following location on the new computer:

- **C:\Program Files (x86)\Hexagon\PC-DMIS <version>** (if you have a 32-bit version)
- **C:\Program Files\Hexagon\PC-DMIS <version>** (if you have a 64-bit version)

Where <version> is the 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 R1 on a new computer, copy the backed-up CMM machine files to the following location on the new computer:

- **C:\Program Files (x86)\Hexagon\PC-DMIS <version>** (if you have a 32-bit version)
- **C:\Program Files\Hexagon\PC-DMIS <version>** (if you have a 64-bit version)

Where <version> is the PC-DMIS version.

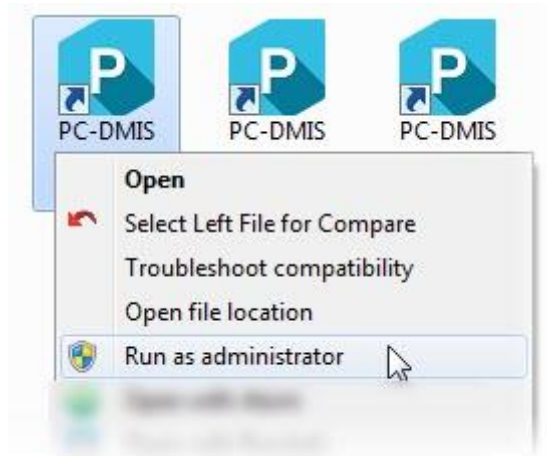
For more information about these files, see "[Backing Up Machine Files for a DEA CMM with a DEA Controller](#)".

Step 6: Launch PC-DMIS for the First Time

1. When you run this version of PC-DMIS for the first time, choose **Start, All Programs,** and then **PC-DMIS 2017 R1 ##-bit.**

Where the # symbols represent the version type (x64 or x86).

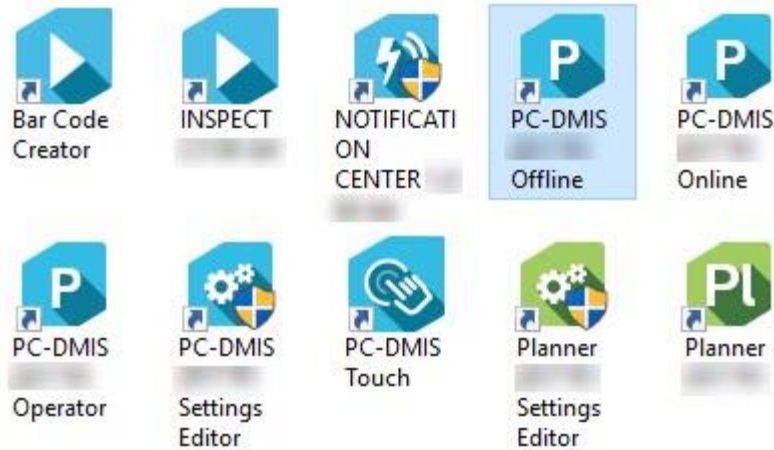
2. From the list of shortcuts, right-click on either the **Online** or **Offline** icon, and then select the **Run as administrator** option (required only if the **Launch PC-DMIS** check box wasn't checked at the end of the installation).



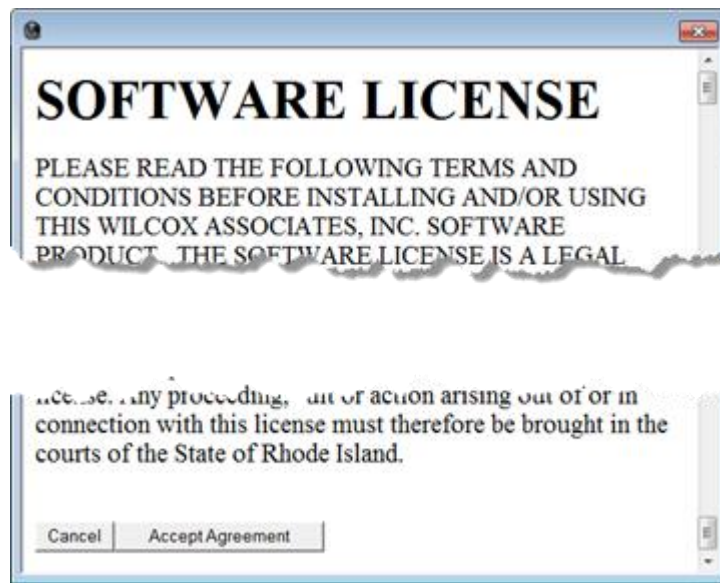
3. This allows the program to write the needed machine-specific settings.
 - If your previous version used the pcdln.ini file, PC-DMIS asks if the settings in your PCDLRN.INI file should be used as your registry settings. Click **Yes** at the prompt. Otherwise, PC-DMIS loads in the factory defaults.
 - If your previous version used the Settings Editor, do the following to use your previous PC-DMIS settings:
 - a. Close PC-DMIS.
 - 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 imports your settings.
 - d. Close the PC-DMIS Settings Editor.
3. When you launch PC-DMIS, the **What's New** interface appears. To scroll through the major new features in this version, click the right arrow.

You can also choose to display the **What's New** interface after you launch PC-DMIS. To do this, click **Help | What's New**.

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



Once PC-DMIS starts, the **Software License** screen displays the current license agreement. Read the agreement carefully and then at the bottom, click **Accept Agreement** to proceed:



Once PC-DMIS 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. A message says that the PC-DMIS license is valid:



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 appears and says that the PC-DMIS license is disconnected:



When the license is disconnected, PC-DMIS functions normally, but after five 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 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 as desired.

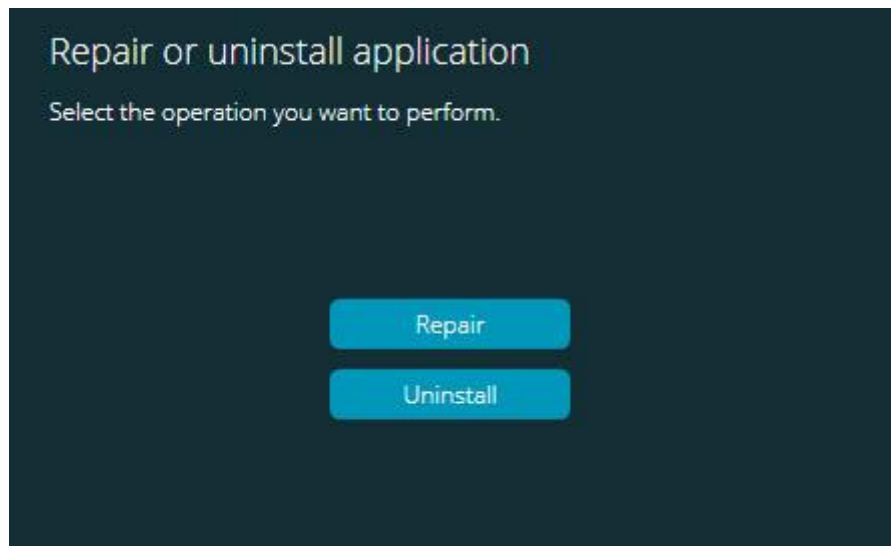
You can also manually check for updates. To do this, click **Help | Check for Updates** and then select the desired options in the **HEXAGON UPDATES** updater application.

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 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 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 on the **Pcdmis2017_R1_Release_##.#.###.#_x###.exe** file as if you were beginning the installation process. The setup displays a screen with these options:



- **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 PC-DMIS in Another Language

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

To run PC-DMIS in a language other than the operating system's language, select **File | Language**, and then click the desired language.

PC-DMIS restarts and displays the application in the desired language. To get the help content available in a non-English language, see the information below.

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 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:

For 32-bit:

ftp://ftp.wilcoxassoc.com/PC-DMIS-Versions/Release/2017_R1/Release/x86/Lang/

For 64-bit:

ftp://ftp.wilcoxassoc.com/PC-DMIS-Versions/Release/2017_R1/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 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.

PC-DMIS 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 PC-DMIS.

Description: This happens if you try to run PC-DMIS 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 PC-DMIS](#)".

Solution: Uninstall PC-DMIS, 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 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.)

Description: A firewall on your computer may be blocking the updater from connecting to the server. If PC-DMIS 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 get out to the server, <http://www.wilcoxassoc.com/>, using port 80.

Installing on Top of an Existing Version Results in Unexpected Behavior

Problem: You installed on top of an existing version of PC-DMIS, 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 PC-DMIS is run without administrator privileges, DPUPDATE.EXE does not work.

Solution: Run PC-DMIS with administrator privileges.

Contact Hexagon Manufacturing Intelligence

If you are participating in the *technical preview* of PC-DMIS 2017 R1, please post your feedback in the appropriate technical preview forum located at www.pcdmisforum.com/forum.php. Please do not contact Technical Support for technical previews.

If you are using the *commercially released version* of PC-DMIS 2017 R1 and would like further information or technical support, please feel free to contact hexagonmi.com/contact-us or visit hexagonmi.com/products/software. You can also reach Hexagon Manufacturing Intelligence Technical Support by calling (1) (800) 343-7933.

Appendix A

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 (**/qb**), and the correct information is provided, everything runs without user interaction. The command switch **/qb** displays the progress bar and handles installer errors, while the **/q** 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 [licensing screen](#).

A description of the parameters follows, along with examples:

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).

ENTITLEMENTID="<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 speak 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="<username>" - 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**.

LMSFNOURL="<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.

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

```
/qb ENTITLEMENTID="99999-88888-77777-66666-55555"
```

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

```
/qb USELMSLICENSING
```

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

```
/qb LMSLICENSESERVERS="123.12.134.42"
```

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

```
ENTITLEMENTID="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 R1 and later. These files are now stored in the following locations, based on each file's role (where <version> is the PC-DMIS version).

Public Documents

Measurement routine, CAD, probe, and other files:

C:\Users\Public\Public Documents\Hexagon\PC-DMIS\<version>

Demo CAD files:

C:\Users\Public\Public Documents\Hexagon\PC-DMIS\<version>\CAD

Public Documents (Reporting Directory)

Report template, label template, rule definition, and color definition files:

C:\Users\Public\Public Documents\Hexagon\PC-DMIS\<version>\Reporting

Public Documents (Fixturing)

Fixturing files:

C:\Users\Public\Public Documents\Hexagon\PC-DMIS\<version>\FIVEUNIQUE

Program Data Files [Hidden]

Calibration files (such as comp.dat and compens.dat), setup files (such as tool.dat, toolc.dat, and usprobe.dat), and other files:

C:\ProgramData\Hexagon\PC-DMIS\<version>

User Data Files

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

C:\Users\<username>\AppData\Local\Hexagon\PC-DMIS\<version>

Where <username> 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.

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

Required User Access Rights

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

File System

Windows 10, 8, 7, and Vista

- C:\ProgramData\Hexagon\PC-DMIS\2017 R1
- C:\Users\Public\Documents\Hexagon\PC-DMIS\2017 R1
- C:\Users\UserName\AppData\Local\Hexagon\PC-DMIS\2017 R1
- 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 R1.

x86 OS

- HKEY_LOCAL_MACHINE\SOFTWARE\Hexagon\PC-DMIS\2017 R1 Key and all sub keys
- HKEY_CURRENT_USER\Software\Hexagon\PC-DMIS\2017 R1 and all sub keys
- HKEY_USERS\.DEFAULT\Software\Hexagon\PC-DMIS\2017 R1 and all sub keys

x64 OS

- HKEY_LOCAL_MACHINE\SOFTWARE\Wow6432Node\Hexagon\PC-DMIS\2017 R1 Key and all sub keys
- HKEY_CURRENT_USER\Software\Hexagon\PC-DMIS\2017 R1 and all sub keys
- HKEY_USERS\.DEFAULT\Software\Hexagon\PC-DMIS\2017 R1 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 after the install finishes.** 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\NCSSENSORSETTINGS
 - 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 PC-DMIS 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:\Users\Public\Documents\Hexagon\PC-DMIS\FIVEUNIQUE

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 install).
2. When running FxtServerInterface, a message states that the system will migrate all 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.