HEXAGON
MANUFACTURING INTELLIGENCE

PC-DMIS 2020 R2

- Release Notes -

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PC-DMIS

2020 R2

Hexagon Manufacturing Intelligence –
Metrology Software, Inc. © 2020

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Release Notes - 2020 R2 SP6

Application Errors

You no longer get an application error in these instances:

- PCD-208339 - When you run a Basic Script in certain cases.

- PCD-208987 - When you move the cursor above all the alignment commands and define the cross-section commands.

- PCD-209148 - When you click the **Generate** button on the **Scan** dialog box to re-generate hits after you edit a scan feature.

- PCD-209155 - When you open PC-DMIS on locked down IT accounts without Internet access and you didn't turn off the Internet access on the Home page settings.

- PCD-209214 - When you import a .dxf file in certain cases.

- PCD-209603 - When you use legacy true position D3 with no datum.

- PCD-209614 - When you start execution of a measurement routine in certain cases.

- PCD-210119 - When you copy true position dimensions in certain cases.

- PCD-210133 - When you delete features that use the true position legacy dimensions.

- PCD-210361 - When you open PC-DMIS Online in certain cases.

- PCD-210366 - When the Romer interface fails to initialize in certain cases.

- PCD-210455 - When you switch from probe to scan in certain cases.

- PCD-210456 - When you select **File | Close** in certain cases.

- PCD-210466 - When you preview a pointcloud in certain cases.

- PCD-210587 - When you select **File | Exit** in certain cases.

- PCD-210593 - In the **Probe description** area of the **Probe Utilities** dialog box in certain cases.

- PCD-210608 - When you switch between active measurement routines in certain cases.

- PCD-210681 - When PC-DMIS displays a license failure error message immediately after you open PC-DMIS.

- PCD-210719 - When you close a measurement routine with an active clearance plane.

- PCD-210955 - When you drag and drop an item from the Summary mode to within or outside (such as custom report) the Summary mode.

- PCD-210987 - When you calibrate probes in certain cases.

- PCD-211001 - At the end of the execution when you switch measurement routines.

- PCD-211060 - When you calibrate tips in certain cases.

- PCD-211077 - When the device manager interface generates an error message before PC-DMIS is ready.

- PCD-211122 - When you close a measurement routine in certain cases.

- PCD-211128 - When you perform an undo operation on an alignment.

- PCD-211308 - When you carry tolerances forward.

- PCD-211353 - When you close a measurement routine and then immediately open another measurement routine.

- PCD-212224 - When you open a measurement routine from the protected directories.

Auto Features

- PCD-185254 - You can now change the **Row overlap** value in the **Auto Feature** dialog box on Auto Laser plane features.

- PCD-210189 - You can now see the improved spectrum output for the Precitec CHRocodile S and CHRocodile SE controllers.

- PCD-210200 - You can now see Re-measure works correctly when you use Rmeas on all contact features.

- PCD-211612 - You can now see that, when in Offline mode and you measure an Auto Circle Contact with zero sample hits relative to a feature, PC-DMIS projects the circle onto the theoretical plane of the circle.

CAD

- PCD-210145 - You can now see all the CAD entities when you import a CAD file.

- PCD-210872 - You can now see an improved import of CAD STEP files.

CMM

- PCD-163494 - PC-DMIS can now saves the wrist speed in the settings editor whenever you have PC-DMIS read the machine defaults on startup. To do this, mark the **Read machine defaults on startup** check box for FDC controllers in the **Machine Options** dialog box.

- PCD-211016 - You can now correctly calibrate multiple arms in the INCH mode when you use the `AUTOCALIBRATE/MULTIPLEARM` command.

- PCD-211376 - PC-DMIS no longer converts the external command line from lowercase to uppercase.

GD&T

- PCD-205908 - You can now update `DIMINFO` and `POINTINFO` expressions when you remove the segment from the tolerance command.

- PCD-208911 - PC-DMIS now displays deviation correctly for the planar position in the Graphical Display window.

- PCD-208983 - PC-DMIS now allows 10 million hits for features in the **Geometric Tolerance** dialog box.

- PCD-211223 - You can now see that FCF or Tolerance indicator with ISO behaves correctly for datums in the lower segment between Position and Line Profile or Surface profile.

HxGN SFx | Asset Management

- PCD-196206 - PC-DMIS no longer sends incorrect error events when you enable the Find Hole option for auto features.

- PCD-212187 - PC-DMIS now updated Edge Client data stream to add session trace fields.

Laser

- PCD-208943 - You can now execute thickness scan features with the Precitec 2SHS controller.

- PCD-210143 - PC-DMIS now displays an error message in the Execution dialog box where there is no signal from the CWS or HP-OW probes.

Probe

- PCD-211073 - You can now show or hide the Probe Readouts window through automation.

Q-DAS

- PCD-209253 - PC-DMIS now shows the zero value for K2008 in a .dfq file when the tolerance zone for a position dimension is only in one axis.

- PCD-210022 - You can now see the material condition information of K2020 in a part-specific Q-DAS data file.

- PCD-210023 - PC-DMIS now controls K2005 for the profile characteristics with the Q-DAS Interface Settings.

- PCD-210585 - You can now see the Max/Min profile reporting in a .dfq file for the Geometric Tolerance dimensions.

Reporting

- PCD-207509 - PC-DMIS no longer causes resource consumption when you refresh the custom report with the snapshot images in the Report window.

- PCD-209996 - PC-DMIS now converts the deviation value of the point info into the same unit of the measurement routine.

- PCD-210875 - You can now see the correct ball color for leader lines drawn on the CAD reporting object in the custom report.

Temperature Compensation

- PCD-208280 - PC-DMIS Temp Comp V2 now lets you detect the mismatch in the compensation method and apply the correct method for the actual CMM for these two conditions:

  - H3C/FDC/CC controller

  - Measurement routines created with Temp Comp V1 that use the "Read Temperatures" method

- PCD-212274 - PC-DMIS now correctly converts the temperature values when you switch from Celsius to Fahrenheit in the **Temperature Compensation Setup** dialog box.

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- PCD-98633 - You can now see improved computation for auto features such as Edge Point, Polygon, Notch, Round Slot, and Square Slot. This helps when you use Relative Measure to locate the position of the feature you want to measure. This doesn't affect the result of the feature's computation.

- PCD-149154 - You can now see PC-DMIS correctly transforms the probe position when you transform a CAD model and compute the deviation from CAD (T) in the Probe Readout window.

- PCD-151794 - You no longer see the feature remains highlighted in the Graphic Display window that you selected from the **Size** dialog box when you click **Create**.

- PCD-162303 - You no longer get an application error when you edit a form report that contains an error in the VB script.

- PCD-171694 - You can now see that the AT960 tracker with a T-scan immediately starts to scan when you switch from another sensor type.

- PCD-185414 - You can now see the correct theoretical values for a constructed 3D width.

- PCD-197473 - You can now see the consistent results of a Pointcloud Surface Colormap when you click **Apply** or **Reset** from the **Pointcloud Operator** dialog box.

- PCD-198413 - You can now define the A and B wrist angles in the **Measure Probe** dialog box from the **Wrist Calibration** area. This allows you to put the related Offset values in the controller.

- PCD-198422 - You can now see improved performance when PC-DMIS imports a .csv file that contains ESF (VWMP) features.

- PCD-199329 - You can now see no delay for evaluation of the Pointcloud Surface Colormap after you open the measurement routine.

- PCD-199362 - You can now create pointcloud surface colormap annotations at a low zoom level in the Graphic Display window.

- PCD-199716 - You can now see points from a `COP/OPER, IMPORT` command inside a loop are purged only once during the execution of a measurement routine. You need to place the COP feature outside of the loop.

- PCD-199914 - You can now correctly reset the pointcloud data when you click **Reset** in the **Pointcloud Operator** dialog box and click **Reset Pointcloud** from the **Pointcloud** toolbar.

- PCD-201537 - You no longer get an offset when you scan in inch mode with a laser scanner on Arm2 of the DEA Bravo HP/HD Dual Horizontal Arm CMM.

- PCD-201807 - You can now execute the Pointcloud to CAD Auto Alignment properly when you probe an exclusion plane.

- PCD-201986 - You can now see pointcloud cross-section in the Graphic Display window after you execute, close, and then reopen a measurement routine.

- PCD-202475 - You can now see correct results for the Legacy Profile dimension of a Point Colormap.

- PCD-202536 - You can now see the size tolerance in the report when you migrate from an XactMeasure position of a pattern to the geometric tolerance command.

- PCD-204117 - You can now select CAD faces for a Thickness Colormap compared to CAD. PC-DMIS uses both sides of the material to compute the thickness; however, PC-DMIS only colors the data for the selected faces.

- PCD-204720 - You no longer get an application error when you cancel the execution during the auto-calibration process.

- PCD-204759 - You can now update feature nominals in the Size command when you click **Yes** in the message box to update the dimension nominals. You no longer need to press F9 on the Size command and then select the feature or type the feature name in the Edit window.

- PCD-204767 - You can now see that PC-DMIS prompts you to load the Reflector when you disconnect from the Tscan. Also, you can now see PC-DMIS disconnects from the Tscan software before you load the Reflector during execution of a measurement routine.

- PCD-205345 - You can now see better plus and minus tolerance calculations when you convert different size features with common datums from Xact measure to Geometric Tolerance.

- PCD-205618 - You can now see the nominal values for the Polar Angle in any language.

- PCD-205779 - You no longer get an application error when you changed a nominal value in the Edit window on a constructed line.

- PCD-206249 - You can now see the unique feature identifiers in .planxml files.

- PCD-206307 - You no longer get the measured values of all ESF dimensions at 0,0,0 when you open measurement routines from an automation client.

- PCD-206540 - You can now see that PC-DMIS displays the original data type popup to show the feature's theoretical X value when you position your mouse pointer on hit point X of a measured value. Also, you can now see PC-DMIS displays the :content string whenever available in the data type popup.

- PCD-206584 - PC-DMIS no longer reverts back to **Median Points** in the **Geometric Tolerance** dialog box when you press F9 on the geometric tolerance concentricity command.

- PCD-207289 - You can now add or delete segments to geometric profile tolerances that contain secondary or tertiary material conditions.

- PCD-207372 - You can now draw the round slot and square slot ESF (VWMP) features in the Graphic Display window.

- PCD-207477 - You can now see the fifth segment label to report the Geometric Tolerance command.

- PCD-207984 - You can now see the correct default options for graph, text, and output of the Thickness Gage feature's internal 3D distance dimension.

- PCD-208067 - You no longer get an application error when you save a measurement routine that contains an image capture command.

- PCD-208518 - You no longer get an "illegal tip" error message when you execute dual arm measurement routines on CW43.

- PCD-208631 - PC-DMIS no longer sets the Thickness Gage internal location dimension options to their default values after you execute the measurement routine.

- PCD-208920 - PC-DMIS no longer removes features and datum pointers when you copy features in the geometric tolerance command.

- PCD-209027 - PC-DMIS now allows you to migrate expressions for Xact measure commands and use them with the new geometric tolerance commands.

- PCD-209289 - You no longer get an application error when you reset a feature in the **Datum Definition** dialog box and then save the measurement routine.

Release Notes - 2020 R2 SP4

- PCD-161334 - Fixed an issue where PC-DMIS couldn't box-select a laser scanned circle when you performed a pointcloud alignment to features.

- PCD-187399 - Fixed an issue where PC-DMIS didn't populate the updated cone height value in the **Construct Circle** dialog box.

- PCD-193861 - Fixed an issue where PC-DMIS showed an incorrect message when you added Point of Interest (POI) in the **Thickness Gage** dialog box.

- PCD-194919 - Fixed an issue where PC-DMIS took a long time to compute Pointcloud Surface Colormaps when you imported an STP file.

- PCD-195720 - Fixed an issue where PC-DMIS showed incorrect color for the Mesh Thickness colormap when you compared with the CAD annotation.

- PCD-198318 - Fixed an issue where PC-DMIS removed the Mesh data in the Graphic Display window when you edited the `MESH/OPER, SELECT` command in the **Mesh Operator** dialog box.

- PCD-198971 - Fixed an issue where the CWS Thickness Scan didn't work with the feature-based measurement.

- PCD-199080 - Fixed an issue where each feature's point was drawn as a hit in the Graphic Display window when you selected a Laser Auto feature in the **Alignment Utilities** dialog box.

- PCD-201881 - Updated device drivers for the Heidenhain IK5000 (Metronics) controller.

- PCD-201911 - Fixed an issue where the variable tolerance calculations were not migrated properly for the Xact measure command to the geometric tolerance command.

- PCD-202401 - Fixed an issue where PC-DMIS didn't automatically clear the position diameter check box in the Excel Form Report when you cleared the check box in the **Geometric Tolerance** dialog box.

- PCD-203000 - Fixed an issue where PC-DMIS failed to set the tolerance to a negative value in the Thickness Gage command when you changed from the Edit window.

- PCD-203163 - Fixed a software crash that occurred when you executed thickness scans.

- PCD-203241 - Fixed an issue where the `COP` command was incorrectly removed from the Edit window when you opened and closed the Caliper **Gage** dialog box without any changes.

- PCD-203663 - Fixed an issue where PC-DMIS removed the Mesh data in the Graphic Display window when you pressed Ctrl + U to execute the `MESH/OPER,SELECT` command.

- PCD-203865 - Fixed an issue where PC-DMIS changed the internal dimensions when you pressed F9 to open the **Thickness Gage** dialog box and closed the dialog box without any changes.

- PCD-204558 - Fixed an issue where the CWS scan reported no points even though the scan was successful.

- PCD-204562 - Fixed an issue when PC-DMIS didn't retain the tolerance values of the internal min/max dimensions when you edited the values in the Edit window.

- PCD-204569 - Fixed an issue where the labels for the Surface profile Dimensions of the geometric tolerance command were corrupted when you dragged the dimension from the Edit window into the custom report.

- PCD-204861 - Fixed an issue where lines didn't join polylines properly when you created a thickness scan on the CAD.

- PCD-204963 - Fixed an issue where spherical surfaces didn't tessellate correctly when you imported some CAD models.

- PCD-205590 - Fixed an issue where PC-DMIS allowed you to edit the measured value in the Edit window for the ESF (VWMP) features.

- PCD-205780 - Fixed an issue where the BD (ESF, VWMP) features were not available when you opened existing measurement routines. This issue also fixed a software crash that occurred when you clicked **Create** in the **Extended Sheet Metal Features** dialog box.

- PCD-205801 - Fixed a software crash that occurred when you clicked **Cancel** in the **Ring Light Migration** dialog box after you clicked **Yes** for migration in the warning message.

- PCD-206045 - Fixed an issue where PC-DMIS didn't show a minus sign in the .dfq file for the geometric tolerance command.

- PCD-206086 - Fixed an issue where PC-DMIS couldn't take the hit on the CAD under a feature glow when you selected **Adaptive Circle Scan** in the **Auto Feature** dialog box.

- PCD-206166 - Fixed an issue where PC-DMIS didn't configure the laser hardware properly in the **Machine Options** dialog box when you used the HSI_CMM interface.

- PCD-206263 - Fixed an issue where PC-DMIS showed an incorrect nominal value of the internal distance dimension for a Point of Interest (POI) with zero gage distance.

- PCD-206392 - Fixed a software crash that occurred when PC-DMIS tried to overwrite the existing viewset after you clicked **Yes** in the warning message.

- PCD-206488 - Fixed an issue where PC-DMIS used full precision instead of the measurement routine setting in the .dfq file.

- PCD-206597 - Fixed an issue where the positions of the **Graphic Window in Y+** and the **Graphic Window in Y-** icons were reversed in the **Graphic View** toolbar on the high resolution monitors.

- PCD-207353 - Fixed an issue where PC-DMIS showed the same graphic for the lower segment and upper segment for the geometric tolerance position FCF in the report.

- PCD-207512 - Fixed an issue where a lower segment couldn't use a feature or datum math type that was different than the setting in the geometric tolerance command.

Release Notes - 2020 R2 SP3

- PCD-82062 - Fixed an issue where the `Copy Parameters` functionality didn't work properly for the Laser Edge Point features.

- PCD-177993 - Fixed an issue where the calibration matrix for Laser probes didn't transform correctly and showed high standard deviation errors when the tool was mounted off the rotary table.

- PCD-188259 - Fixed a software crash that occurred when you used the HP-C-VE camera and the probe went to the focus position.

- PCD-190082 - Fixed an issue with the automation interface that could cause the PC-DMIS application to not properly terminate.

- PCD-194852 - Fixed an issue where PC-DMIS showed a black background in the **DOF** area of the **Best Fit Alignment** dialog box.

- PCD-194853 - Fixed an issue where the `DIMINFO` command didn't support ISO local Size minimum and maximum diameters when geometric tolerance was set to RFS and the **Feature Math** option was set to default.

- PCD-197686 - Fixed an issue where PC-DMIS didn't update the **Grid Size** value when you selected **Grid Mesh** and changed the **Finalize Mode** options in the **Mesh Command** dialog box.

- PCD-198080 - Fixed an issue where a new custom laser scanning profile was added when you pressed the portable arm button to close the **Laser Data Collection Settings** dialog box after you measured an exclusion plane.

- PCD-199754 - Improved the performance of the Geometric Tolerance command with large datasets.

- PCD-200936 - Added revised rules for datums at Maximum Material Boundary (MMB) and Least Material Boundary (LMB) to reference higher precedence datums with the same material condition modifiers.

- PCD-200965 - Fixed an issue where, instead of executing the `COP/OPER`, `EXPORT` command from a subroutine, PC-DMIS would display an error message.

- PCD-201556 - Fixed an issue where new measurement routines couldn't send their file name to the **HxGN SFx | Asset Management**.

- PCD-201817 - Fixed an issue where the `COP` command size showed zero after you deleted the `COPIMPORT` or `COPEXPORT` command.

- PCD-202400 - Fixed an issue where the ESF features were drawn with the nominal co-ordinates instead of actual co-ordinates in the Graphic Display window.

- PCD-202537 - Fixed an issue where you were not able to understand the interpretation of the constructed line features for the Geometric Tolerance.

- PCD-202609 - Fixed an issue where PC-DMIS allowed you to edit the measured values in the Edit window for the ESF (VWMP) features.

- PCD-202624 - Fixed an issue where PC-DMIS report showed a reduced size position graphic when an axis wasn't selected.

- PCD-202832 - Fixed an issue where the Geometric Tolerance reports showed zero values when you measured datum size for the preresolved datums with Regardless of Material Boundary (RMB) selected.

- PCD-203342 - Fixed an issue where the GEOTOLPROFILE labels didn't follow the format of the `Dimension` command.

- PCD-203433 - Fixed an issue where PC-DMIS showed the probe for a short time when you opened the **Auto Features** dialog box.

- PCD-203491 - Fixed an issue where PC-DMIS didn't show arrow heads in the Graphic Display window.

- PCD-203601 - Added bonus tolerance to the K0060 field for the .dfq output file in Q-DAS Configuration.

- PCD-203620 - Fixed an issue where the scanning parameters were incorrect for the Eagle Eye Laser scanning probe.

- PCD-203628 - Fixed an issue where PC-DMIS would hang when you used the Quick Feature to extract an ellipse.

- PCD-203809 - Fixed a software crash that occurred when you selected a datum (pattern) and set the **GD&T Standard** option as **ISO 1101** in the **Geometric Tolerance** dialog box.

- PCD-204106 - Fixed a software crash that occurred when you created a construct feature set from the `COPCLEAN` command.

- PCD-201149 - Fixed an issue where the graphical analysis didn't use the supplied measured vectors when you used the Geometric Tolerance cylindricity.

- PCD-204302 - Fixed an issue where PC-DMIS didn't show an error message when decimal symbol comma didn't convert to decimal point in the Windows regional settings for the number formats.

- PCD-204325 - Fixed an issue where PC-DMIS disabled the warning message when you selected the **Use Text Mode Dimension Reporting** check box in the **Report** dialog box.

- PCD-204360 - Fixed an issue where an event was missing in the EventModule.xml file in the onStartingApplication command.

- PCD-204425 - Fixed an issue where the GeoTol Position label didn't show the feature name when three or more axes were selected.

- PCD-204457 - Fixed an issue where the tabs in the **Best Fit Alignment** dialog box were not displaying properly on high resolution monitors.

- PCD-204661 - Fixed an issue where the size command was not able to calculate the ISO limits and tolerance when the tolerance was associated with an ISO 286 tolerance code.

- PCD-204858 - Fixed a software crash that occurred when you edited the thickness gage dimensions from the **Thickness Gage** dialog box and used internal command suffixes in the feature names.

- PCD-204936 - Fixed a software crash that occurred when you opened a measurement routine with CAD GD&T elements.

- PCD-205468 - Fixed an issue with the geometric tolerance command when using a constructed BF plane that was constructed from features such as circles or cylinders.

- PCD-205592 - Fixed an issue where some scanning parameters didn't work properly for the Eagle Eye Laser sensor.

Release Notes - 2020 R2 SP2

- PCD-168144 - Fixed an issue where the area scan didn't consider the new alignment when you moved the part and machine for the ATS600 tracker.

- PCD-187629 - Fixed an issue where the paste operation didn't work properly when you copied the measurement sequence from one measurement routine into another.

- PCD-188653 - Fixed an issue where the `On Error` command couldn't skip the current command when you worked with the Leica LMF interface.

- PCD-195832 - Added the new names for TesastarMP US components and support for the 6-way module.

- PCD-199838 - Fixed an issue where the previous scan regions were shown in the Overview Camera when you inserted a new area scan for the ATS600 Tracker.

- PCD-201313 - Added definitions for the HP-Te series of probes.

- PCD-201581 - Fixed an issue where the generic features were highlighted in the Graphic Display window after the execution of a measurement routine.

- PCD-201880 - Fixed an issue where the bitmap was corrupted when you printed reports to 3D PDF.

- PCD-202002 - Fixed an issue where the vision features had an incorrect calibration when you used the illumination override on a feature.

- PCD-202546 - Fixed an issue where you were not able to edit the theoretical values of constructed width features in the **Construct Width** dialog box.

- PCD-202580 - Fixed a software crash that occurred when you calibrated the CWS probe from the probe calibration toolbox.

- PCD-202759 - Fixed a software crash that occurred when you clicked **OK** in the **Thickness Gage** dialog box after you edited the **Point of Interest** value for the command.

- PCD-202850 - Fixed an issue where the report showed the incorrect size modifier for the form and runout tolerances when you reported ISO straightness of a cylinder.

- PCD-203046 - Fixed an issue where PC-DMIS didn't allow selection of multiple slots when you selected the **Datum Definition** dialog box from the menu item.

- PCD-203142 - Fixed a software crash that occurred when you clicked **Apply** in the **Animated Probe Changer** dialog box.

- PCD-203163 - Fixed a software crash that occurred when you executed thickness scans.

- PCD-203164 - Fixed an issue where PC-DMIS showed an error message when you did parallelism of a 2D line to an axial datum.

- PCD-203218 - Fixed an issue where PC-DMIS showed an error message when you used a mid-line whose two input lines were at different heights.

- PCD-203246 - Fixed an issue where the Vision 2D distortion compensation was not active when the execution was started after a first magnification change.

- PCD-203293 - Fixed an issue where the **Report Output** check box was automatically deselected in the **Output Configuration** dialog box when you clicked the **Print Full Report** button in the Marked Sets window.

- PCD-203458 - Fixed an issue where the 1D width was incorrectly allowed as a secondary datum.

- PCD-203610 - Fixed an issue where PC-DMIS showed an error message for some cases of lower-precedence 2D datums when you created a 3D BF or BFRE constructed line.

- PCD-203642 - Added the date and time stamps to the DME log file for the I++ server.

- PCD-203814 - Increased UZ offset limit to 200% of the total tolerance for the ISO profile to support the ultra-unilateral profile tolerance.

Release Notes - 2020 R2 SP1

- PCD-164339 - Fixed an issue where both perpendicularity and parallelism showed an incorrect color representation of the size deviation graphic colors.

- PCD-178003 - Fixed an issue where the **Probe** and **Probe Trigger Options** tab were not visible in the **Parameter Settings** dialog box when you edited the `AutoTrigger` command.

- PCD-178506 - Fixed an issue where the alignment on the slave arm was not restored correctly if the execution of a measurement routine on a dual arm system was interrupted.

- PCD-186811 - Fixed an issue where the **Use datums** check box in the legacy **Position** dialog box was turned on for all dimensions when you selected the **Use datums** check box for only a single dimension.

- PCD-190871 - Fixed an issue where the bookmarks were lost or moved to another location after the execution of a measurement routine that contained ESF (VWMP) features.

- PCD-191254 - Fixed a software crash that occurred when you opened the **Constructed Plane** dialog box and selected **Primary Datum** from the list.

- PCD-194568 - Fixed an issue where PC-DMIS automatically deselects the last selected feature when you clicked in the white area of the **Alignment** dialog box.

- PCD-195912 - Fixed an issue where PC-DMIS created a mismatch on the math applied to the inner circles and outer circles when you selected the **Best Fit Math Type** list in the **Auto Feature** dialog box.

- PCD-195962 - Fixed a software crash that occurred when you worked on a laser scan in Dual Arm mode.

- PCD-196204 - Fixed an issue where the ESF (VWMP) features selection on CAD data didn't work when there was a pointcloud data over the CAD model.

- PCD-196697 - Fixed an issue where PC-DMIS didn't position a leader line correctly for the dimension information.

- PCD-197497 - Fixed an issue where the ESF references were lost in dimension commands when you opened a measurement routine through a specific automation method.

- PCD-197924 - Fixed an issue where the Laser extraction results were inaccurate when you migrated from an older version of PC-DMIS to a newer version.

- PCD-198325 - Fixed a software crash that occurred when you created a circle with the use of a Quick Feature gesture.

- PCD-198560 - Fixed an issue where the first tip calibration didn't register when you indicated that the tool has moved and elected to use the Probe Collision Check for the calibration process.

- PCD-198971 - Fixed an issue where the CWS Thickness Scan didn't work with the feature-based measurement.

- PCD-199556 - Fixed an issue where PC-DMIS required two clicks to select a feature when you selected a surface with a different orientation.

- PCD-199732 - Fixed an issue where the **Size** dialog box didn't show icons for the width features.

- PCD-199946 - Updated a DLL to help fix a software crash that occurred when you closed a measurement routine.

- PCD-200143 - Fixed a software crash that occurred when you changed the hit target direction in the Live View for the 2D profile.

- PCD-200174 - Fixed an issue where the section cut profiles and feature vectors for ESF (VWMP) features were not drawn when you pressed F9 in the Graphic Display window.

- PCD-200245 - Fixed an issue where multiple features showed the same deviation in the graphical report.

- PCD-200319 - Fixed an issue where you were not able to change the tolerance type when two or more segments were already available in the **Geometric Tolerance** dialog box.

- PCD-202626 - Fixed an issue where PC-DMIS was not able to send the ESF (VWMP) results to the stats output file.

- PCD-200640 - Fixed the HP-TM components issue which included updating the nomenclature from HP-TM2 to HP-TMe, and ensured the compatibility with the Samara rack (HP-MP).

- PCD-200643 - Fixed an issue where PC-DMIS wouldn't set the **Stripe Distance** and **Exposure** values in the **Linear Open Scan** dialog box and Edit window for the Eagle Eye sensor.

- PCD-200657 - Fixed an issue where PC-DMIS opened multiple **Datum Definition** dialog boxes when you clicked the add button in the **Feature Control Frame** tab of the **Geometric Tolerance** dialog box.

- PCD-200659 - Fixed an issue where the **Reorder Selected Items** option in the **Geometric Tolerance** dialog box didn't work properly when you removed any items from the selected items list.

- PCD-200675 - Fixed a software crash that occurred when you inserted the `Use Parameter Set/DEFAULT` command in the measurement routine.

- PCD-200682 - Fixed an issue where PC-DMIS didn't update the report label when the SIZE[value] text was removed from the Edit window or from the **Geometric Tolerance** dialog box.

- PCD-200694 - Fixed an automation issue where PC-DMIS was not able to activate the **Use COP** check box in the **Linear Open Scan** dialog box.

- PCD-200755 - Fixed an issue where PC-DMIS didn't show the correct translation for the Dimension ID in the Chinese Traditional and Chinese Simplified languages after migration of the Geometric Tolerance command.

- PCD-200812 - Fixed a software crash that occurred when you add angles to the CMS probe and selected **From CAD** from the **New Angles** list in the **Add Angles** dialog box.

- PCD-200826 - Fixed an issue where the custom probe builder connections were offset to the edge.

- PCD-200877 - Fixed an issue where the incorrect polar axis and clocking vector were setup for the Geometric Tolerance position to calculate the polar angle.

- PCD-200984 - Fixed an issue where PC-DMIS would hang when you created a `POINTINFO` command.

- PCD-201006 - Fixed a hardware crash that occurred when you selected the **Move Feature to Reference Plane** check box and performed the calibration of an HR-MP rack.

- PCD-201077 - Fixed an issue where auto calibrate didn't work when a machine was in Manual mode which caused PC-DMIS to report collisions that did not exist.

- PCD-201302 - Fixed an issue where PC-DMIS Home page couldn't display the News feed on the upper-right corner of the page.

- PCD-201365 - Fixed a software crash that occurred when the HMV debug files were closely investigated.

- PCD-201520 - Fixed an issue with I++ interface where the CMM used the move speed from the previous measurement routine unless you changed the tool.

- PCD-201561 - Fixed an issue where PC-DMIS would hang when you generated a PPAP report.

- PCD-201611 - Fixed a software crash that occurred during the optical calibration when you selected **<Current>** from the **Illumination** list in the **Calibrate Optics** dialog box.

- PCD-201649 - Fixed an issue where PC-DMIS showed an error message for the Geometric Tolerance commands when you used the printed PDF report.

- PCD-201813 - Fixed an issue where a laser scanner would disconnect automatically when you changed the face and one or more scanner LEDs were covered.

- PCD-201939 - Fixed an issue where the Geometric Tolerance labels were missing from the Reporting folder of the installation location.

- PCD-201970 - Fixed a software crash that occurred when you imported the NX part file from the **File | Direct CAD Interfaces | NX** menu item.

- PCD-201985 - Fixed an issue where the angle dimension between the two planes was incorrectly taken as the dimension between the plane and axis.

- PCD-202073 - Fixed an issue where PC-DMIS reported the incorrect size of the square slot when you measured the square slot as an ESF (VWMP) feature.

- PCD-202099 - Fixed an issue where the CAD model views indicated the incorrect presence of the GD&T features when PC-DMIS added the icons next to the views without PMI.

- PCD-202105 - Fixed an issue where PC-DMIS disabled the **Segment Type** toggle when there was more than one segment available in the **Geometric Tolerance** dialog box.

- PCD-202191 - Fixed an issue where the geometric tolerance labels were not updated in the PPAP report.

- PCD-202247 - Fixed a software crash that occurred when the Xact Measure features created in versions before 2020 R2 were not able to migrate to the new Geometric Tolerance.

- PCD-202461 - Added the migration option (.json file) to change the GD&T standard from the XactMeasure Custom to the Geometric Tolerance ASME or ISO.

- PCD-202526 - Added Primary Datum support for the two-dimensional circles, lines, and width features for geometric tolerances with a warning message.

- PCD-202626 - Fixed an issue where PC-DMIS were not able to sent the ESF (VWMP) results to the stats output file.

- PCD-202675 - Fixed an issue where the geometric tolerance command was probe-compensated incorrectly for the Auto Line feature on portable machines.

- PCD-202819 - Fixed a translation issue where you were not able to use Geometric Tolerance Auto feature Adaptive scanning strategy as the considered feature for Form and Runout when you ran PC-DMIS in non-English languages.

- PCD-202892 - Fixed a software crash that occurred when you closed the **Extended Sheet Metal Features** dialog box after you created the Contact feature.

Release Notes

PC-DMIS 2020 R2 is a significant development release of the software. For detailed information and video tutorials about this release, visit hexagonmi.com/products/software.

Featured Items

3D PDF

This ability delivers reports that bring a new dimension to your results and collaboration.

See "[3D PDF](3D PDF)".

GD&T Selection From File

Improved the GD&T creation workflow. You can now only do GD&T selection from a file. PC-DMIS processes the entire file and presents the results in an interactive user interface.

See "GD&T Selection from File".

Geometric Tolerance

Added the Geometric Tolerance command which fully supports Y14.5.1-2019. This offers numerous quality of life improvements over XactMeasure.

See "Geometric Tolerance".

HxGN SFx | Asset Management

Added the new HxGN SFx Asset Management with notifications and dashboards so that you can keep on top of your measurement tasks for optimal productivity.

See "Smart Factory".

Pointcloud Select

With the Pointcloud SELECT command, you can now do the following:

- Drag the boundaries of the box, circle, and sphere to change the selection size. You can also click and drag the control points for the polygon to change the shape.

- Click and drag the center control point to re-position your selection.

- Click and drag the center end points to change the depth selection.

- Use Ctrl and click to snap the selection onto the COP when you first define the shape selection.

See "Pointcloud Select".

New Enhancements

CAD

- You can now define an offset area where PC-DMIS searches and creates the moves. The maximum and minimum ranges for each axis let you define a more precise space. To do this, use the **Bounding box offset** area in the **Auto Insert Moves** dialog box.

  See PCD-151151.

- You can now see the GD&T data in the Graphic Display window when you import Inventor files that contain GD&T.

  See PCD-175925.

- Added DCI support for the NX 1899 series. See PCD-185595.

- Added DCI support for Catia V5 R30. See PCD-190857.

Excel Form Report

- Removed support for the PCD2Excel Wizard (PCD2excel.exe) which will be removed in a future release. Please use the Excel Form Report.

  See PCD-121531.

- You can now use the PC-DMIS Internal Excel Viewer application to view inspection reports that are saved as Excel and CSV file types.

See PCD-152034.

- You can now do the following with the Excel Form Report:

  - Define line and scatter charts in a template file. Once the Excel form fills up with the generated data, PC-DMIS displays the charts.

  - Select what type of dimensions you would like to see in the report. To do this, follow these steps:

    1. From the **Excel Form Report** dialog box, click the **Data** tab.

    2. From the list, select the option: **Report All**, **Report Out of Tolerance Only**, or **Report In Tolerance Only**.

  - Populate the Part information (Trace and Summary fields) for each run based on the template layout. To fill the part information in a Multiple Run form, you need to associate the cells with the trace and summary fields, such as date of execution, operator name, part identification, and so forth. After you associate the part data, you need to use the **Set as repeatable field area** option from the right-click menu.

  - Define the cells as a NO DATA area to skip rows or columns where you don't want any data. You might want to fill the cells with data from some other measuring instrument.

  - Create a custom order of dimensions. To do this, you need to first click the **Set custom order** icon. Then, right-click on any dimension to access the options to re-order the dimensions.

  - Added a formula bar to view the formula of a selected cell.

  - Added an information icon for the **Name** lists in the **Report Settings** dialog box. This provides information about the three different report modes and the file name requirements for each of them. The three report modes are One Run Mode, Multiple Run Mode, and Append Mode.

- Added a **TraceField** option in the **Name** lists to enhance file name capability.

- Open the Excel Form Report immediately after PC-DMIS generates the report. To do this, select the **Show Report** check box in the **Report Settings** dialog box.

See PCD-153474.

Laser

- You can now define the speed of the laser scan as a distance between the scan stripes and is an alternative to using the **Scan Speed** (in mm/sec) setting. If the measurement routine contains the **Scan Speed** (in mm/sec), then subsequent laser scan commands in the Edit Window will use this speed. To do this, use **LaserStripeSpacing** in the **Parameter Settings** dialog box.

When the LaserStripeSpacing command is present, subsequent commands will instead use this spacing to determine the laser scan speed. By default, PC-DMIS does not set the **LaserStripeSpacing** value and sets the registry entry to 0 (zero) in the PC-DMIS Settings Editor.

If you enter a **LaserStripeSpacing** value greater than the upper speed limit defined in the CMM controller (Leitz or FDC), then PC-DMIS internally uses the maximum-allowed value (without raising any errors).

See PCD-110290.

- You can now insert the `LASERPROFILE` command into a measurement routine. This sets the real-time filter during a scan. Any pointcloud (COP) that occurs in your measurement routine after the `LASERPROFILE` command uses those profile settings during a scan.

See PCD-179727.

- You can now select the Area Scan measurement mode from the menu (**Insert | Scan | Area Scan** or from the **Tracker Measure** toolbar for the

ATS600 tracker. To use the **Area Scan** option, you need to select a surface probe. The `AREASCAN` command stores the data.

See PCD-184034.

- You can now set the scan speed at theoretical scan points for defined laser scan paths. PC-DMIS then moves the laser probe at this speed after it crosses the theoretical point during the scan. On a very large part, you can do the following:

    - Collect more points in the area where there are features such as circles and slots. To collect more points, you can lower the scan speed where you need to extract the features.

    - Collect less points in the area where there are no features. To collect less points, you can increase the scan speed in areas where there are no features.

    These speed change point settings give you more control over the scan speed and can help reduce the scan time.

    See PCD-190268.

Pointclouds/Mesh

- You can now show or hide the colormaps in the Graphic Display window based on the cursor position in the Edit window. To show the colormaps, do one of the following:

    - Click the **Activate Colormaps** button in the **Graphic Items** toolbar.

    - From the **Operation** menu, select **Graphic Display Window | Graphic Items | Activate Colormaps**.

    - From the **Colormaps** list, select a colormap.

    See PCD-183341 and PCD-183342.

- You can now select the data based on its orientation in the selection view. To do this, use the **Front Facing** check box in the **Pointcloud Operator** and **Mesh Operator** dialog boxes.

- If you select the **In** option and the **Front Facing** check box, PC-DMIS includes the points or triangles that are strictly inside the selection.

- If you select the **Out** option and the **Front Facing** check box, PC-DMIS includes the points or triangles that are strictly outside the selection.

See PCD-174428.

- You can now select and delete a subset of triangles contained in the mesh data object. To do this, use the **Select Mesh** button. This button uses a polygon to remove triangles in the 3D view.

The **Select Mesh** button option differs from the use of the Mesh Select operator from the **Mesh Operator** dialog box. You can choose the **Select** function from the **Mesh Operator** dialog box or type the `Mesh/OPER,` `SELECT` command in the Edit window.

- PC-DMIS includes triangles that are strictly inside the polygon selection in the subset when you select the **In** option.

- PC-DMIS includes the triangles that are strictly outside the polygon selection in the subset when you select the **Out** option.

To end the selection, double-click anywhere in the Graphic Display window, or press the End key.

See PCD-126904 and PCD-184556.

- You can now uncheck all filters set on the **Laser Data Collection Settings** dialog box, and store all the points from the Laser sensor into a COP. To do this, select **COP - NO Filters** from the **Laser Data Collection Settings** dialog box. This is the default CMM laser scan profile for new installations. You cannot edit it.

See PCD-179726.

- You can now define the same size levels for a Pointcloud or Mesh Colormap. When you define the **Number of zones** in the **Levels** area for a Pointcloud or Mesh Colormap, the size of each level is typically

proportional to the tolerance values. This makes levels easier to read in the Graphic Display window and in reports. To do this, mark the **Use non-linear scale** check box in the **Color Scale Editor** dialog box.

See PCD-183990.

- You can now import the .nsd file type. The .nsd file contains X, Y, Z points inside a binary file. These files are typically created by the 3DReshaper Meteor application. To do this, select **Import | Pointcloud | NSD** or from the **Pointcloud Import** toolbar, click **Import Pointcloud in NSD Format**.

  See PCD-21770.

- You can now see the real-time selection of triangles when you create the `Mesh/OPER,SELECT` command from the **Mesh Operator** dialog box. To define the color of the selection, use the **Colors** tab in the **CAD and Graphic Setup** dialog box.

  See PCD-190218.

- You can now see the real-time selection of triangles when you create the `COP/OPER,SELECT` command from the **Poincloud Operator** dialog box. To define the color of the selection, use the **Colors** tab in the **CAD and Graphic Setup** dialog box.

  See PCD-126942.

- You can now revert all Mesh SELECT operations and return the original Mesh object. To do this, insert the `MESH/OPER,RESET` command from the **Mesh Operator** dialog box or the **Mesh** toolbar.

  See PCD-190217.

- You can now update the alignment's dependent commands when you add an alignment before a Colormap or Clean COP command in the Edit window, or if you change an alignment above a Colormap in the Edit window.

  See PCD-183343.

- You can now disable the colormap when you execute a measurement routine so that you don't see the previous scan colormap. To do this, from the **Colormaps** list, select **None**.

  See PCD-175151.

Portable

- You can now perform a 360-degree scan (ring or full dome) within a minimum and maximum vertical angle setting for the ATS600 tracker. To do this, select **Insert | Scan | Ring Scan** or click the **Ring Scan** button from the **Tracker Measure** toolbar. You can type the **Max Vertical Angle** and **Min Vertical Angle** values. You can also click the respective **Read** button to read the current angle from the tracker.

  See PCD-189785.

- You can now use the ATS600 **Area Scan** dialog box to facilitate a simplified workflow.

  See PCD-184033.

- You can now access the **Area Scan** dialog box, from the **Tracker Measure** toolbar. To do this, click the **Area Scan** button. This button is only available if you select a surface probe for the ATS600 tracker interface.

  See PCD-171330.

- The **Quality Filter** on the **Surface Probe** tab of the **Machine Options** dialog box is now renamed to **Signal Filter**. The **Signal Filter** option is now available in the **Area Scan** dialog box.

  Added the **AOI Filter** check box in the **Area Scan** dialog box. This is the angle of incidence filter setting. The value you enter defines the maximum angle of incidence between the laser beam and the object's surface.

  Added the `TrackerSignalFilterDefault` and `TrackerAOIFilterDefault` registry entries under the USER_Option category in the Settings Editor application.

  See PCD-189790.

- You can now store the values of the Grow/Shrink setting for the ATS600 Tracker Overview Camera in the Area Scan command.

  See PCD-190899.

Roughness Measurement

- PC-DMIS offers a new Roughness measurement on a CMM. This option enables you to measure the roughness on your part (per ISO 4287 and ISO 13565) along with all other dimensions. A skid-less roughness sensor manufactured by Breitmeier Messtechnik GmbH captures the roughness profile. This sensor mounts onto an infinite-rotating wrist about two axes. PC-DMIS offers roughness measurement with a use of a Rotary Table in combination with the infinite rotating wrist. Through the interface, you can create a roughness scan command in one click. The roughness evaluation command offers a roughness profile, waviness profile, and primary profile evaluations with your choice of noise and form filters. The PC-DMIS report displays plots of different profiles and can export roughness measurement in different formats.

  See PCD-153595.

Vision

- Removed the support for the MicroVu Vision machines. See PCD-185684.

List of Fixes

Application Errors

- PCD-133290 - Fixed an application error that occurred when you calibrated a vision probe and the machine interface settings were incorrect.

- PCD-146292 - Fixed an application error that occurred when you inserted the **Ole Object** and selected the Microsoft Word document in the **Custom Report Editor** window.

- PCD-162303 - Fixed an application error that occurred when you tried to edit a Form Report that contained an error script.

- PCD-175692 - Fixed an application error that occurred when you edited an Analysis View object from the main report editor.

- PCD-185384 - Fixed an application error that occurred when you pressed **Cancel** in the **Extended Sheet Metal Features** dialog box after you minimized and then restored PC-DMIS.

- PCD-185750 - Fixed an application error that occurred when you clicked **No** in the **Qualification Tool Moved** message box prompt during the calibration of a probe.

- PCD-186821 - Fixed an application error that occurred when the Application.Exit automation command closed PC-DMIS.

- PCD-190155 - Fixed an application error that occurred when you exported vision features to an .xml file through **File | Export | XML**.

- PCD-190622 - Fixed an application error that occurred when you typed a non-existing Mesh ID for the `MESH/OPER` command in the Edit window.

- PCD-190730 - Fixed an application error that occurred when you tried to exit from the Custom Report window and clicked **View Report Mode** in the **Reporting** toolbar.

- PCD-193937 - Fixed an application error that occurred when you selected a GB polygon feature on the CAD model and clicked **Create** in the **Extended Sheet Metal Features** dialog box.

Auto Features

- PCD-145939 - Fixed an issue with incorrect avoidance moves when you used the self-center point strategy for auto vector points.

- PCD-183575 - Fixed an issue where Auto Feature scanning strategies didn't support speed correctly when you defined it as a percentage of maximum speed.

Automation

- PCD-114827 - Fixed an issue where PC-DMIS wouldn't create a Constructed Circle (Cone) through automation.

- PCD-114828 - Fixed an issue where PC-DMIS wouldn't create a Constructed Circle (Sphere) through automation.

- PCD-114830 - Fixed an issue where PC-DMIS wouldn't create a Constructed Circle (Cylinder) through automation.

- PCD-164229 - Fixed an issue where the command inserted through automation were incorrectly located in a measurement routine.

- PCD-186103 - Fixed an automation issue where Inspect opened an offline measurement routine when you closed and immediately opened a measurement routine. This also prevented PC-DMIS from sending the status messages from the pointcloud to automation.

CAD

- PCD-148194 - Fixed an issue where PC-DMIS would incorrectly read in data from imported ASCII files.

- PCD-173512 - Updated the look of the Virtual Machine models for Global S and Optiv 3-2-2.

- PCD-176947 - Fixed an issue where PC-DMIS doesn't change the name of a feature when you referenced the feature as a variable.

- PCD-179359 - Fixed an issue where PC-DMIS was not able to correct some surfaces when you clicked **Fix Surface Vectors** in the **CAD Vectors** dialog box.

- PCD-183534 - Fixed an issue where PC-DMIS generated path lines only for the last feature when you selected **Operation | Graphic Display Window | Collision Detection**.

- PCD-185756 - Fixed an issue where PC-DMIS showed incorrect probe positions when displayed in the Settings window (**View | Other Windows | Settings Window**).

- PCD-186451 - Fixed an issue where PC-DMIS failed to clear the feature list when you selected new Geometric Tolerance in the **XactMeasure GD&T** dialog box.

- PCD-188562 - Fixed an issue where the Edit window was disabled when you imported the CAD model and select **File | Operations | Mirror**.

- PCD-188622 - Fixed an issue where PC-DMIS imported the CAD model even when you clicked **Cancel** in the merge information message box.

- PCD-190202 - Fixed an issue where path lines were drawn to an incorrect location in the first feature when you turned on **Quick Path**.

CMM

- PCD-170663 - Fixed a hardware crash that occurred when an invalid tip was created for a probe.

- PCD-179600 - Fixed an issue where the Laser working area was moved off the feature's center when you changed the **Zoom** settings in the **Auto Feature** dialog box.

- PCD-190141 - Fixed an issue with I++ interface where PC-DMIS doesn't filter points with quality tags when you performed scan.

- PCD-194939 - Fixed an issue with the I++ DME client where indexing head support was incorrect.

Dual Arm

- PCD-96960 - Fixed an issue where an extra empty line was added in the .Results file of the Arm2 probe when PC-DMIS appends new results to the same file.

Extended Sheetmetal Features

- PCD-177908 - Fixed an issue where PC-DMIS showed incorrect results when you calculated ESF features with and without actual thickness.

- PCD-184370 - Fixed an issue where the Edit window showed LASER commands as CONTACT commands when you created the ESF Laser features (VWMP).

- PCD-184380 - Fixed an issue where PC-DMIS showed an incorrect error message when you edited the AA and BK ESF features.

- PCD-185289 - Fixed an issue where PC-DMIS created a badly formatted .xml file when you exported ESF laser features.

- PCD-185378 - Fixed an issue where PC-DMIS showed an error message when you tried to extract a CB (VWMP) feature.

- PCD-189504 - Fixed an issue where the list of failed features was not complete in the output file when you executed a measurement routine with the `ONEERROR/LASER,SKIP` command.

Home Page

- PCD-165660 - Fixed an issue where a folder wouldn't open when you tried to open it from the **Favorites** section of the Home page.

- PCD-185449 - Fixed an issue where an incorrect selection of menu items occurred on the Home page when you hovered your mouse over a tile and expanded the menu items.

HTML5 Help

- PCD-159970 - Fixed an issue where the Settings Editor failed to launch the Help file when you clicked the **Help** button or pressed F1.

- PCD-171217 - Fixed an issue where the registry entries were not referenced consistently when you viewed the Settings Editor Help file.

- PCD-171500 - Fixed an issue where the Back to Top link was not visible in the footer of the Help file.

- PCD-178129 - Improved the Basic help to include information and an example on how to use the Picture control in the Basic Script Editor.

- PCD-178130 - Added an example for the Put statement in the Basic Help.

- PCD-181114 - Fixed an issue where a context mapping link dosen't show the correct topic when you pressed F1 in the **Insert ActiveX Control** dialog box.

- PCD-184982 - Added a link to the `GETTRACEVALUE()` function from the "Inserting TRACEFIELD Commands" topic.

- PCD-188326 - Fixed an issue where localized release notes were not accessible when you clicked **Help | Release Notes**.

- PCD-192020 - Fixed an issue on the public website (https://docs.hexagonmi.com) where IE 11 couldn't show language contents on the main page, and it couldn't display the privacy policy page.

- PCD-192505 - Fixed an issue in the Settings Editor documentation where the topic listed an incorrect default version for the `Release` registry entry under the Catia5 section.

- PCD-193321 - Removed the duplicated registry entry topics from the DCI Help and linked them to the existing topics in the Settings Editor Help.

Laser

- PCD-98072 - Fixed an issue where the **Filter** area was cropped when you opened the **Auto Features** dialog box for Laser Surface point.

- PCD-169323 - Fixed an issue where the box-selection of Laser Auto Features was not done in the current view when you extracted or measured it without CAD.

- PCD-180953 - Fixed an issue where the `MOVE/CLEARPLANE` command was not inserted when you selected **Insert | Scan | Section Cut**.

- PCD-184500 - Fixed an issue where PC-DMIS showed an incomplete warning message when you performed a tip calibration of the HP-L 10.6 sensor.

- PCD-187791 - Fixed an issue where the surfaces were skipped. This caused incomplete scans when you created a scan with CAD surfaces.

- PCD-190079 - Fixed an issue when you created offline laser scans with an HP-L probe, and then ran the program online. The scans were observed at incorrect locations after you execute the scan in inch units.

- PCD-194376 - Fixed an issue where PC-DMIS didn't create a point pair alignment when you clicked on points on the CAD model.

Pointcloud

- PCD-181687 - Fixed an issue where the position of the colormap min or max annotation points were updated when you executed a new pointcloud data. Added the `ColorMapKeepMinMaxLabelPosition` registry entry so that the min or max label position always stays the same.

- PCD-183066 - Fixed an issue where PC-DMIS would hang when a huge size COP feature was selected in the **Construct Feature** dialog box.

- PCD-185349 - Fixed an issue where the `CALIPER` command was not created properly when you saved a measurement routine to previous versions.

- PCD-185747 - Fixed an issue where PC-DMIS took more time to export a pointcloud file than usual when you exported a psl file.

- PCD-187890 - Fixed an issue where the Colormap Gradient Scale was not shown in the Graphic Display window when you loaded a different scale profile that wasn't the default one from the **Profiles Manager** dialog box.

- PCD-188888 - Fixed an issue where the **Thickness Colormap** scale values were incorrect in the **Mesh Operator** dialog box when you have not marked the **Compare to CAD** check box.

- PCD-194875 - Fixed an issue where PC-DMIS didn't create annotation points to a selected CAD face for a Point Colormap when you marked the **Create annotation points** check box in the **Pointcloud Operator** dialog box.

Portable

- PCD-31797 - Fixed an issue where tracker commands and modes were out of sync when you pressed the button or selected a menu item to switch the modes.

- PCD-163802 - Fixed an issue where scan points were not visible real-time when read into a COP during a manual scan from the **Manual Freeform** dialog box.

- PCD-163426 - Fixed an issue where PC-DMIS wouldn't save the IP address for the tracker in the leicalmf machine interface **Setup** dialog box when you clicked **OK** without clicking **Apply**.

- PCD-174981 - Removed the **SMXLaser Faro Tracker** option from the **Select default portable interface** list in the PC-DMIS installer.

- PCD-183258 - Fixed an issue where the probe moved to a different location when you created a dual- arm measurement routine and looped features on arm 2 only.

Protect

- PCD-186710 - Fixed an issue where Protect Viewer logged the changes of the QuickFeature even when you cancelled the QuickFeature widget.

- PCD-193532 - Fixed an issue where PC-DMIS allowed you to certify the same measurement routine multiple times when no features or dimensions were available in the measurement routine.

Reporting

- PCD-137730 - Fixed an issue with the **Form Editor** option in the **View** menu.

- PCD-154348 - Fixed an issue where the labels in the custom report didn't follow the selected **Number of decimal places** that were defined in the **Setup Options** dialog box.

- PCD-178970 - Fixed an issue where the Excel Form Report file was empty when the Excel Form Report command was in a sub-routine.

- PCD-183886 - Fixed an issue where PC-DMIS showed no error message for the append mode in the Excel Form Report when you opened the Excel Form Report file and continued execution.

Scanning

- PCD-149994 - Fixed an issue for both Laser and Contact probes where the **Insert | Scan** menu options were enabled even when the tip was not loaded.

User Interface

- PCD-177024 - Fixed an issue where the **Temperature** dialog box doesn't show the proper text when you used the Dark Theme.

- PCD-183814 - Fixed an issue where incorrect probe angles were shown in the **Add Angles** dialog box when you added new tips from CAD.

Vision

- PCD-190250 - Fixed an issue where the **Optical** value on the **Magnification** tab in the **Probe Toolbox** dialog box was changed when you closed and reopened the measurement routine.

- PCD-191441 - Fixed an issue that occurred when you didn't center the calibration slide rectangle at the beginning of the pixel size calibration, it caused distortion calibration failure after PC-DMIS prompts you to retry the calibration.

- PCD-194676 - Fixed an issue where the Vision 2D profile feature showed incorrect deviation result when you marked the **Include CAD** check box in the **Open** dialog box.

Information about this Release

We at Hexagon Manufacturing Intelligence are proud to bring you PC-DMIS 2020 R2. PC-DMIS brings together aspects of the software for the development of a complete manufacturing process control solution. With PC-DMIS, dimensional measurement data can flow through your organisation, as it is collected from coordinate measuring machines (CMMs), portable measuring arms, and laser trackers.

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 2020 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 2020 R2 into a new directory. This lets you continue to use your current version if you have problems with the new version.

Recommended System Requirements

Operating System

PC-DMIS 2020 R2 operates under 64-bit Windows 10, Windows 8.1, Windows 8, and Windows 7. No other operating systems are supported.

You can find a list of supported operating systems for most versions of PC-DMIS here:

https://support.hexagonmi.com/s/article/Windows-OS-Compatibility-Listing-for-PC-DMIS

👁 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 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

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

Any popular graphics card that meets or exceeds the following suggested minimums:

- GPU Memory 2 GB DDR3*

- Memory Bandwidth 29.0 GB/s

- CUDA Cores 384

- Open GL 3.0

* For an RS4 laser sensor or later model, you need to have a GPU with at least 4 GB DDR3.

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 three years 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

- A properly-configured LMS license or a HASP key (a physical USB portlock)

> ℹ 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.

Firmware Distributed Controller (FDC) Connection

PC-DMIS establish connection with FDC through the following parameters:

- Controller address - 100.0.0.1

- PC-DMIS computer address - 100.0.0.2

- Subnet mask - 255.255.255.0

- Port - 1234

Pcdlrn.exe and PC-DMIS process listens on port 1294.

Some other ports used are 138 and 1900. The port 1900 was listed as a UDP port.

LMS Licensing

The License verification server and ClmAdmin utility for node locked licenses:

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

The Floating License servers with Flexnet LmAdmin64.exe uses port 27000-27009 on the server. The LocalHost server on port 8090 and older versions defaults to port 8080. You can define these ports when you install license server or through the server interface. These are only Offline licenses when you are not connected to a machine.

Hexagon Universal Updater

WebSocket URL - ws://webupdater.hexagonmi.com

Server - http://webupdater.hexagonmi.com/v2/db.live

Username - Null

Password - Null

Port - 80

File - updates_v4.20190702090658181.db

If you select to install Offline Help when you update the software, it opens the second remote address on port 443. This port verifies the license.

CrashSender1403.exe

This executable is of PC-DMIS Crash Report Utility tool. You can turn off this option because of Windows Event management.

C:\Program Files\Hexagon\PC-DMIS 2019 R1 64-bit\Launcher\HexagonLauncher.exe

LauncherPC-DMIS.config/nocrashdump

A few Hexagon products need to establish remote connections such as Pulse, Notification Center/Message Lights and Smart Factory.

Anti-Virus Software

Hexagon Manufacturing Intelligence used the Sophos anti-virus tool to test PC-DMIS 2020 R2. You 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 2020 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

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 in "[Recommended System Requirements](#)". You must also have a USB portlock or valid LMS license for the installation to work. Your IT specialist can help you with this information.

- To get your computer's properties, highlight the **This PC** icon, right-click on it, and select **Properties**.

- To check the display properties for the graphics card, go to **Start** and type **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 2020 R2 attempts to migrate existing settings from previous installs on the same computer, even from very 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, follow these steps:

  1. Start the Settings Editor.

 2. Click the **Backup** button (or **Export**) to open the **Backup** dialog box.
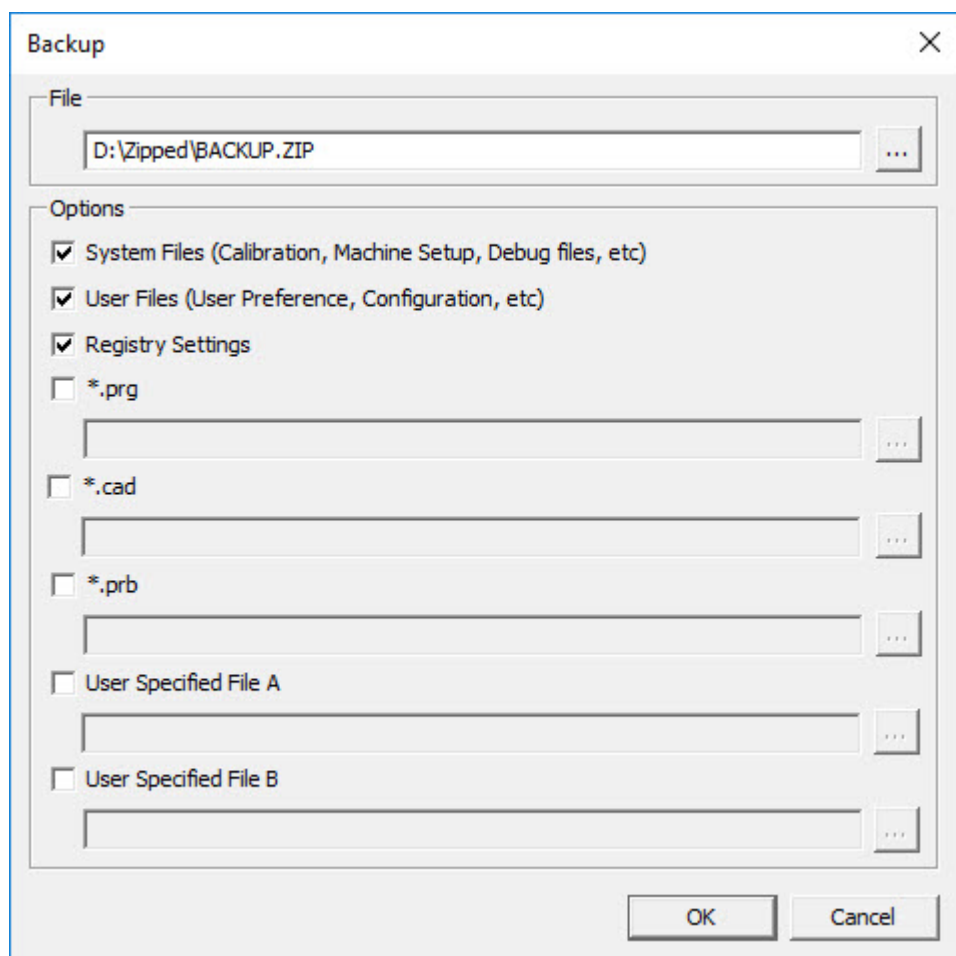
Backup dialog box

  3. In the **File** box, define a safe location to save the backed-up files, and give the file a .zip extension.

  4. Under the **Options** area, 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:
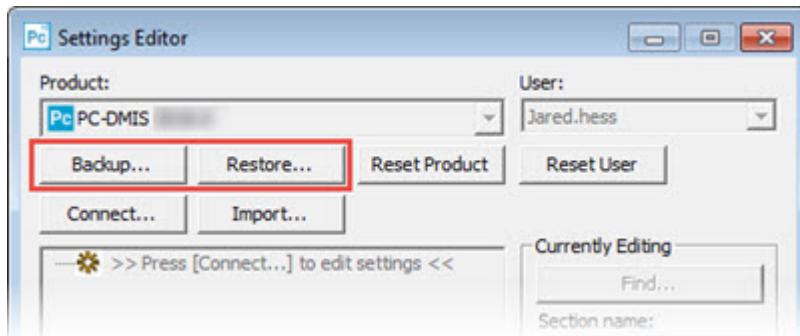
Backup and Restore buttons

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 2020 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 2020 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 2020 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 that contains the downloaded file. The name of the installation file is:

   Pcdmis2020_R2_release_##.#.###.#_x64.exe

   The # symbols represent the version and build numbers.

2. Right-click on this executable file and click **Run as administrator** 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 2020 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 components. If you chose a custom installation path, the additional software still installs to your default measurement routine directory (usually C:\Program Files\Hexagon\).

   - **PDF Converter 5.0** - This third-party tool converts PC-DMIS 2020 R2 reports to PDF outputs.

     > If you are a Portable user and you have the appropriate license, you can select a Portable interface as your default. For details, see "Switchable Portable Interface" in the PC-DMIS Portable documentation.

   - **Offline English Help** - This option installs the English HTML5 Help into an installation folder that you define in step 14. When you access the Help, PC-DMIS tries to use the Internet-based Help, but if it cannot detect an Internet connection, it then attempts to access this offline fallback Help. If you mark the **Use Offline Help** option from the **Help** menu, then it also accesses this offline fallback Help even if you are connected to the Internet. This option appears if you have not installed the offline Help yet. Once you install the offline Help, and you later install an update to PC-DMIS, any updates to the Help occur automatically without presenting a prompt.

     > If you need a non-English offline Help, see "Installing Non-English Offline Help Files from Language Packs".

   - **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](#) website.

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 2020 R2 64-bit** - To launch PC-DMIS 2020 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 Readme.pdf file 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.

13. If you have marked the **Offline English Help** check box in step 9, the Help installer program opens to install the offline Help.

14. In the box at the bottom, you can define the installation folder. By default, the file installs to:

    C:\Program Files\Hexagon\PC-DMIS 2019 R2 64-bit English Help

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

15. Click **Install** to start the installation. A progress bar shows the overall progress.

16. When the installation finishes, a screen shows any warnings or errors. Click **Close** to close the installation program.
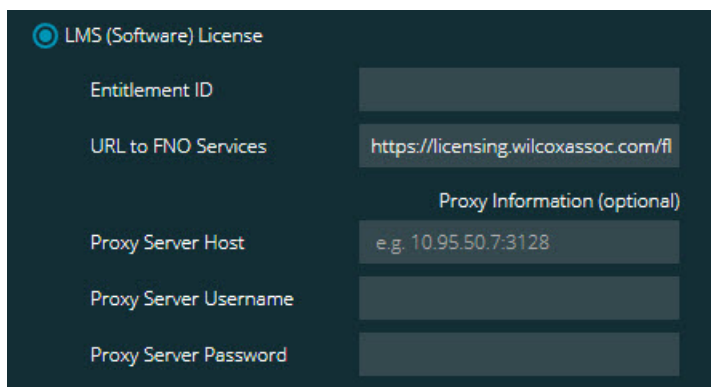
LMS License Setup

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 <u>licensing screen</u>, 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.

> For information on how to use the CLM Admin application, consult the Hexagon Client License Manager (CLM) Software documentation. You can find this in the subfolder for your language (such as the **en** directory for English).

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 license 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 2020 R2, it checks for license updates when it starts and after every 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 2020 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 2020 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.

> ℹ️ 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 (Pcdmis2020_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 2020 R2, you must launch it with administrator privileges. If you mark the **Launch PC-DMIS 2020 R2 64-bit** check box when the installation finishes, PC-DMIS 2020 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 2020 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 the PC-DMIS Core documentation.

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 2020 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 2020 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 2020 R2 for the first time, go to **Start** and type **PC-DMIS 2020 R2 64-bit**.

2. From the list of shortcuts in the **Start** menu, 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).
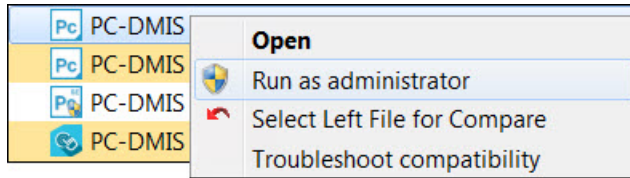
Run as administrator option

The **Run as administrator** option allows the program to write the needed machine-specific settings.

3. You can import settings from a previous version.

   If your previous version used the pcdlrn.ini file, PC-DMIS 2020 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 2020 R2 loads in the factory defaults.

   If your previous version used the Settings Editor, follow these steps to use your previous software settings:

   a. Close PC-DMIS 2020 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 2020 R2 imports your settings.

   d. Close the PC-DMIS Settings Editor.

Subsequent Startups

For subsequent startups, click the usual **Offline** or **Online** shortcut to launch PC-DMIS 2020 R2 normally :


PC-DMIS 2020 R2 shortcuts

Once PC-DMIS 2020 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:
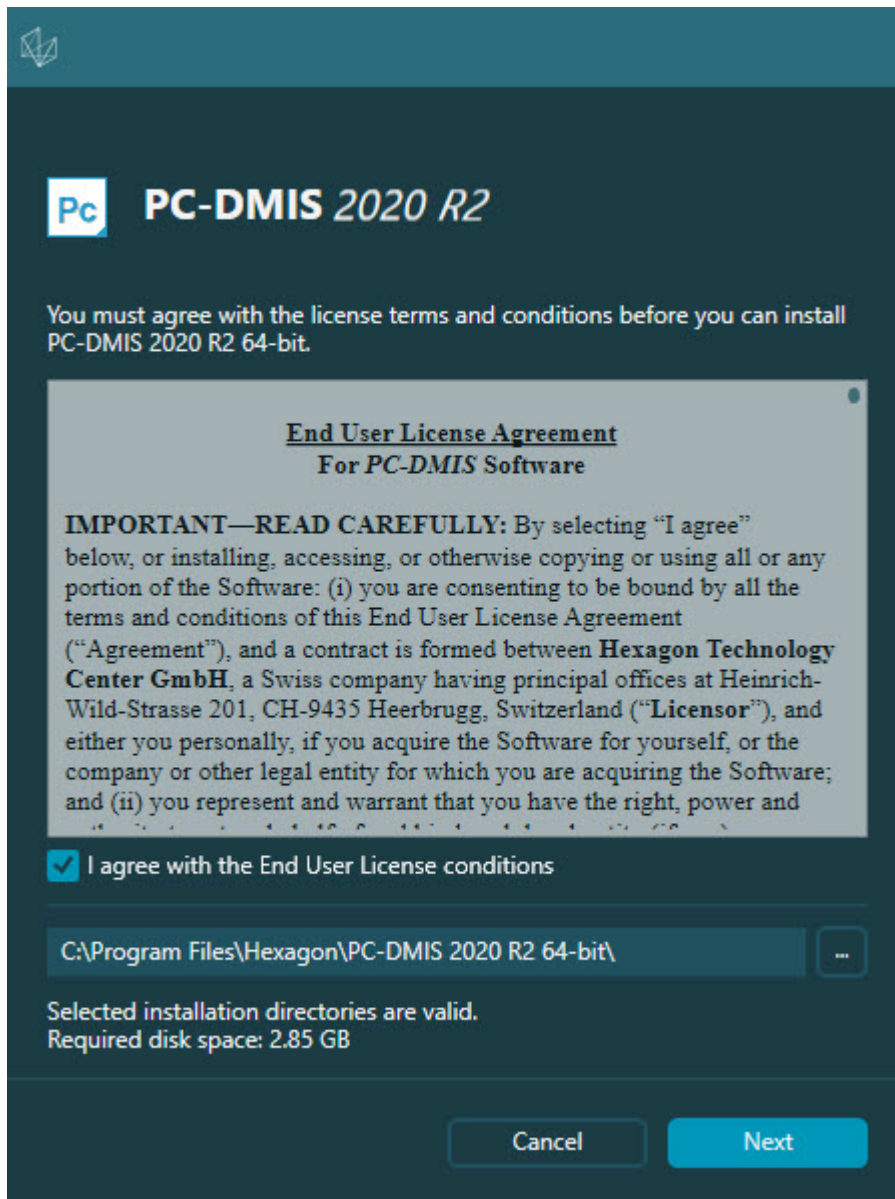

Software License screen

Once PC-DMIS 2020 R2 runs, an icon displays in your system tray. If your portlock or LMS license is programmed correctly, the icon displays a green check mark as shown below:
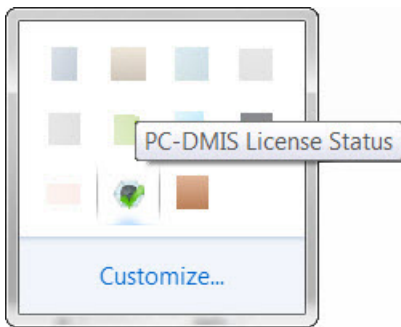
Message for valid PC-DMIS license

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:
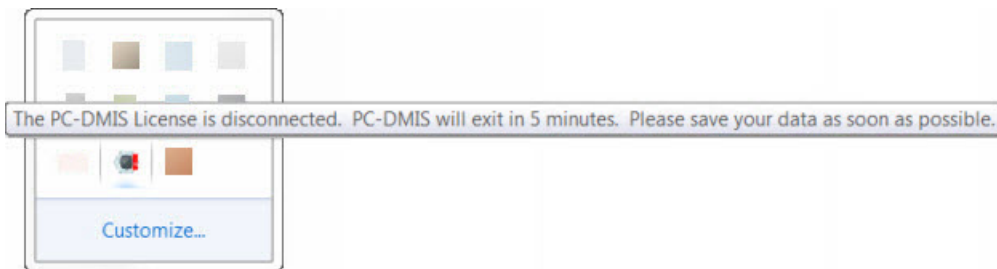
Message for disconnected PC-DMIS license

If the license is disconnected, PC-DMIS 2020 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 2020 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, follow these steps:

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 or create a measurement routine.

3. Select **Edit | Preferences | Machine Interface Setup**.

4. In the **Comm port** box, enter the port number from Windows Device Manager.

Command Line Installation

You can install PC-DMIS from the command line instead of double-clicking on the PC-DMIS installation executable. In addition, you can turn various command line arguments on or off to speed up the installation process.

This topic lists the supported command line arguments.

 Command line arguments are case sensitive.

User Interface Parameters

-q, **-quiet**, **-s**, **-silent** - Installs without any user interaction

-passive - Does a progress-bar-only install

Installation Commands

-uninstall - Removes the application from the computer

-repair - Repairs (or installs if not installed) the application

-package, **-update** - Install (default)

-layout - Creates a local/admin image

HEIP - This parameter sets the Opt-in option for the Hexagon Customer Experience Improvement Program. This provides analytics for PC-DMIS to help us improve the application. By default, this option is on (***HEIP=1***). Set this parameter to 0 (zero) to turn this option off.

USELMSLICENSING - When this parameter is turned on (***USELMSLICENSING=1***), PC-DMIS checks for an LMS license. Set this parameter to 0 (zero) to turn this option off.

INSTALLPDFCONVERTER - When this parameter is turned on (***INSTALLPDFCONVERTER=1***), the PC-DMIS installation installs the PDF Converter. By default, this option is turned on. Set this parameter to 0 (zero) to turn this option off.

INSTALLOFFLINEHELP - When this parameter is turned on (***INSTALLOFFLINEHELP=1***), the PC-DMIS installation installs the offline English help system. By default, this option is turned on. Set this parameter to 0 (zero) to turn this option off.

Restart Handling

-norestart - Suppresses any restarts

-promptrestart - Prompts if a restart is required (default)

Logging

-l, **-log** - Creates an installation log to a specific file (default TempFolder)

-logtoconsole - Logs installation information to the console, if started from the console

Help

-? - Shows the **Supported command line arguments** information screen

Additional Parameters

INSTALLDIR - Specifies the installation folder for the PC-DMIS application. The default location is "C:\Program Files\Hexagon\PC-DMIS <version>", where <version> is the PC-DMIS install version.

SQLCONNECTIONSTRING - Defines the connection string if required by the application

LICENSESTRING - Defines the license string if required by the application

LMSENTITLEMENTID=<EID> - This parameter specifies the LMS Entitlement ID (EID) for your LMS license. Replace "<EID>" with your actual Entitlement ID. For example: ***LMSENTITLEMENTID=99999-12345-67890-12345-67890***

LMSURLTOFNOSERVICES=<FNO server address> - This parameter defines the URL address to the LMS FNO server. Replace "<FNO server address>" with the actual URL to the LMS server. For example: ***LMSURLTOFNOSERVICES=https://licensing.wilcoxassoc.com/flexnet/services***

LMSPROXYHOST=<\{proxyhostname}> - This parameter defines the name of the proxy host server. Replace <\{ProxyHostName}> with the name of the proxy host server. For example: ***LMSPROXYHOST={\fnoserver}***

LMSPROXYUSERNAME=<\{proxyhostusername}> - This parameter defines the user name of the proxy server. Replace <\{proxyhostusername}> with the user name of the proxy server. For example: ***LMSPROXYUSERNAME={\jrjones}***

LMSPROXYPASSWORD=<\{proxyhostpassword}> - This parameter defines the password for the proxy server. Replace <\{proxyhostpassword}> with the password for the proxy server. For example: ***LMSPROXYPASSWORD={\AS4BGxpZyu}***

LMSLICENSESERVERS (@\{ipaddress}) – This parameter defines a comma-separated list of the LMS license servers.

LICENSETYPE - This parameter specifies the license type. The options are HASP, LMSEntitlement, or LMSServer. For example: ***LICENSETYPE=LMSEntitlement***.

The correct usage for the additional parameters is:

> **PARAMETER=*value***

Unattended Installation Example

To perform a fully-unattended installation into a directory named **C:\PCDMISW**, use the following command line argument:

```
Pcdmis<installer information>.exe -q
INSTALLDIR="C:\PCDMISW"
```

Where *<installer information>* is the PC-DMIS version and build numbers of the .exe file that you are installing.

Network Connections

This section describes network access details for some Hexagon products.

Firmware Distributed Controller (FDC) Connection

PC-DMIS uses these parameters to establish its connection with FDC:

- Controller address - 100.0.0.1
- PC-DMIS computer address - 100.0.0.2
- Subnet mask - 255.255.255.0
- Port - 1234

LMS Licensing

You can find the license verification server and the ClmAdmin utility for node-locked licenses here:

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

The Floating License server with Flexnet LmAdmin64 uses ports 27000-27009 on the server. lmgrd and lmadmin listen on TCP port 27000 by default. Communication must be allowed from the client computer to the network license server on this port (or another port if the network license administrator has changed the default). Communication is transitioned from lmgrd / lmadmin to the vendor daemon after the initial connection is made. By default, this is done on a random TCP port. Unless your firewall has built-in support to recognize the randomly chosen port, you need to manually specify a port for the vendor daemon.

The LocalHost server on port 8090 and older versions defaults to port 8080. You can define these ports when you install license server or through the server interface. These are only Offline licenses when you are not connected to a machine.

Offline Help

If you select to install Offline Help when you update the software, it opens the second remote address on port 443. This port verifies the license.

Hexagon Universal Updater

Server - http://webupdater.hexagonmi.com

Port - 80 and 8089 (SignalR)

CrashSender1403.exe

This executable is for the PC-DMIS Crash Report Utility tool. If you run this executable with the /nocrashdump switch, the Event Viewer screen takes over the crash report functionality.

C:\Program Files\Hexagon\PC-DMIS 2019 R1 64-bit\Launcher\HexagonLauncher.exe

LauncherPC-DMIS.config /nocrashdump

Other Products

A few Hexagon products need to establish remote connections which enables them to send emails and text alerts. These products include Pulse, Notification Center/Message Lights, and SMART Factory.

Updating the Software

The Hexagon Universal Updater application automatically checks for software updates if your computer is connected to the Internet. This application is installed with PC-DMIS and Inspect. If the updater detects that an update is available, the updater uses the Windows notification area to the right of your clock on your taskbar to inform you of the update. You can then click on a notification to open the updater to download and install that update.

If the updater is running, a small icon for the updater appears in your taskbar's Notifications area (Up). You can click this icon to open the updater.

If the updater is not running, you can manually run the updater to check for updates. You can also use the updater to launch software or install new software applications. To run the updater, from the **Start** menu, type **Universal Updater**, and select the shortcut for the updater.

If you need additional help with the updater, you can access the help content available from within the updater itself.

👁 During the download and installation processes, your firewall must allow the http://www.wilcoxassoc.com/WebUpdater Internet address. In addition, you must have Administrator privileges to install the software update.

For information on the installation process, follow the installation steps described in the topics above. Once the installation process finishes, you can use the latest version.

For information on evaluation versions and changing HASP to LMS, see "Updating the Software" in the PC-DMIS Core documentation.

Repairing or Removing an Installation

You can also repair or remove an installation once you install it. To do this, double-click the Pcdmis2020_R2_release_##.#.###.#_x64.exe file as if you were beginning the installation process. The setup displays a screen with these options:
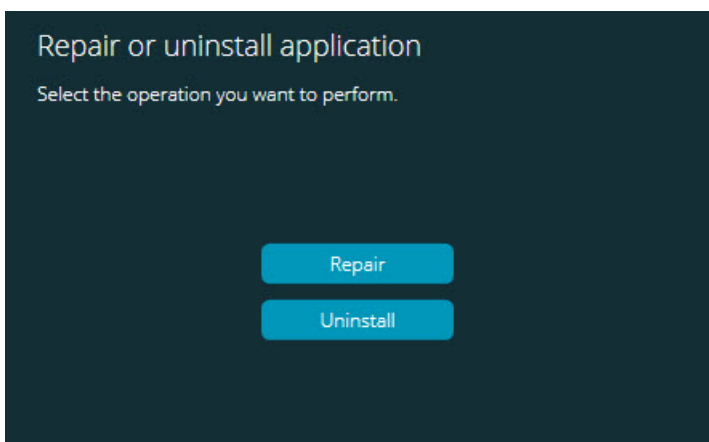
"Repair or uninstall application" dialog box

- **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 **Apps and features** screen or 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 2020 R2 contains the user-interface files for all of the supported languages. When you install PC-DMIS 2020 R2, it installs the language files based on your operating system's language.

To run PC-DMIS 2020 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 2020 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 Offline Help Files from Language Packs](#)".

Installing Non-English Offline Help Files from Language Packs

This topic only applies to users who don't have Internet access.

- With Internet access, the online Help for PC-DMIS 2020 R2 is already available from a public web server in all supported languages. The Help opens in your browser whenever you access it.

- Without Internet access, PC-DMIS 2020 R2 uses the Help where you installed the offline Help for your version.

With the main installation file, you can install the offline Help in English. However, non-English offline Help files are not included in the main installation file. This means if you intent to use a non-English language, and you don't have Internet access, in order to see any Help content, you *must* also install a language pack for that language.

A language pack contains all of the offline Help content for that language.

To install a language pack, follow these steps:

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/2020_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 folder where you installed the offline Help for your version.

You can then switch to that language in the software and access the Help content as expected.

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 2020 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 2020 R2 and then reinstall it. To reinstall it, right-click on the installation file and choose **Run as administrator**.

Setting Up the Network to Send Crash Reports

Problem: PC-DMIS 2020 R2 cannot automatically send crash reports to Hexagon Manufacturing Intelligence even when your software configuration does not use the **/nocrashdump** switch. (This switch disables crash reports in PC-DMIS 2020 R2.)

Description: A firewall on your computer may be blocking the Hexagon Universal Updater application from connecting to the server. If PC-DMIS 2020 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 **Apps & Features** or 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 2020 R2 without administrator privileges, DPUPDATE.EXE does not work.

Solution: Run PC-DMIS 2020 R2 with administrator privileges.

Contact Hexagon Manufacturing Intelligence

If you are participating in the *technical preview* of PC-DMIS 2020 R2, please post your feedback in the appropriate technical preview forum located at www.pcdmisforum.com/forum.php. Please <u>do not</u> contact Hexagon Technical Support for technical previews.

If you are using the *commercially-released version* of PC-DMIS 2020 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 at support.hexagonmi.com or 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 (**-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](#).

- You can 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 you want 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 2020 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 2020 R2 in silent mode:

-passive USELMSLICENSING=1

On a brand-new system using license servers, the following line installs PC-DMIS 2020 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:

Appendix A

LMSENTITLEMENTID=99999-88888-77777-66666-55555

LMSPROXYHOST="123.123.123.123" LMSPROXYUSERNAME="bob"

LMSPROXYPASSWORD="marley"

Appendix B

Required User Access Rights

PC-DMIS 2020 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\2020 R2

- C:\Users\Public\Documents\Hexagon\PC-DMIS\2020 R2

- C:\Users\UserName\AppData\Local\Hexagon\PC-DMIS\2020 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 registry key. The items shown below are for version 2020 R2.

- HKEY_LOCAL_MACHINE\SOFTWARE\Wow6432Node\Hexagon\PC-DMIS\2020 R2 Key and all sub keys

- HKEY_CURRENT_USER\Software\Hexagon\PC-DMIS\2020 R2 and all sub keys

- HKEY_USERS\.DEFAULT\Software\Hexagon\PC-DMIS\2020 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 2020 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.