PC-DMIS 2014.1 Release Enterprise Metrology Solutions

- Release Notes -

- This page intentionally left blank -

Table of Contents

Recommended System Requirements

Operating System

PC-DMIS 2014.1 operates under the following:

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

No other operating systems are supported.

Windows XP support: Beginning with v2012 MR1, there will be no support for the Windows XP operating system. While this version likely runs fine in XP, it will not be tested under the XP operating system. Also note that some parts of the user interface do not appear optimally in XP. Support will be completely dropped in 2016.

IMPORTANT: When using 3rd-party drivers, you should contact your local Hexagon representative to ensure operating system compatibility.

IMPORTANT: Running PC-DMIS inside a Virtual Machine (VM) is not supported.

Notes:

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

Advantages of 64-Bit:

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

.NET Framework

- Microsoft .NET 4.0 for Windows 7
- Microsoft .NET 4.5 for Windows 8

RAM

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

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

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

- 1 GB of video RAM

CPU

2 GHZ or higher Duo-Core processor

Graphics

- For PC-DMIS CAD and CAD++: Professional 3D graphics processors such as Quadro line from Nvidia or FirePro line from AMD/ATI. Nvidia seems to produce better OpenGL drivers than AMD, so Nvidia is recommended over AMD.

- For PC-DMIS Pro, a non-professional graphical processor may also be acceptable (Intel HD Graphics, GeForce, or Radeon, for example) as long as it supports OpenGL 3.0 or higher.

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

- A video adapter with at least 1 GB of memory and a graphics driver that supports OpenGL 4.2 are required for high-quality transparency.

Hard Drive

- 2 GB of free hard drive space plus allocated Virtual Memory of 8 times the largest CAD file used

- SSD drive, HDD 10K, or two disks in RAID 0 mode (high-performance hard disk drive)

Display

Screen resolution of 1280 x 1024 or higher

Connectivity

- 2 Ethernet ports. (This may be required for specific installations in consideration of local needs, including but not limited to CMM systems where one port is required for controller communications and another for intranet/Internet communications.)

- 2 USB ports

- DVD drive

- HASP key (a physical USB portlock) or a software license

  Note: A HASP key does not act as general-purpose data storage; therefore, you cannot use a HASP key to store (download) arbitrary data from a computer. Similarly, you cannot use a HASP key to put (upload) arbitrary data on a computer.

Also, only Hexagon Metrology applications can read or write to a HASP key; other applications do not have this capability. As a result, you cannot use a HASP key to load and unload data to and from a computer.

Browser

- Internet Explorer version 9

Anti-Virus Software

The Sophos Anti-virus tool was used by Wilcox Associates Inc. while testing PC-DMIS. The performance of any other anti-virus tool will need to be confirmed by the user.

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

Solutions for CMMs Using RS-232 Communications

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

- An external RS-232 serial-to-USB adapter cable plus the serial-to-USB adapter cable driver

- An internal serial adapter card with serial ports

Installing PC-DMIS

To install the application, follow these steps:

Step 1: Check System and Hardware Requirements

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

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

- To check the display properties for the graphics card, select **Start | Settings | Control Panel**, and then select **Display and Settings**.

Step 2: Log on as an Administrator

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

Step 3: Back Up Existing Settings

Back up your settings from your previous version.

- If your current version uses the pcdlrn.ini file for its settings, back up your pcdlrn.ini file. This file is found in the Windows system directory. Save a copy of the file in a safe place.

- If your current version uses the PC-DMIS Settings Editor, back up your PC-DMIS Settings Editor data.

  To do this:

  1. Start the Settings Editor.

2. Click the **Backup** button (or **Export**). The **Backup** dialog box appears:
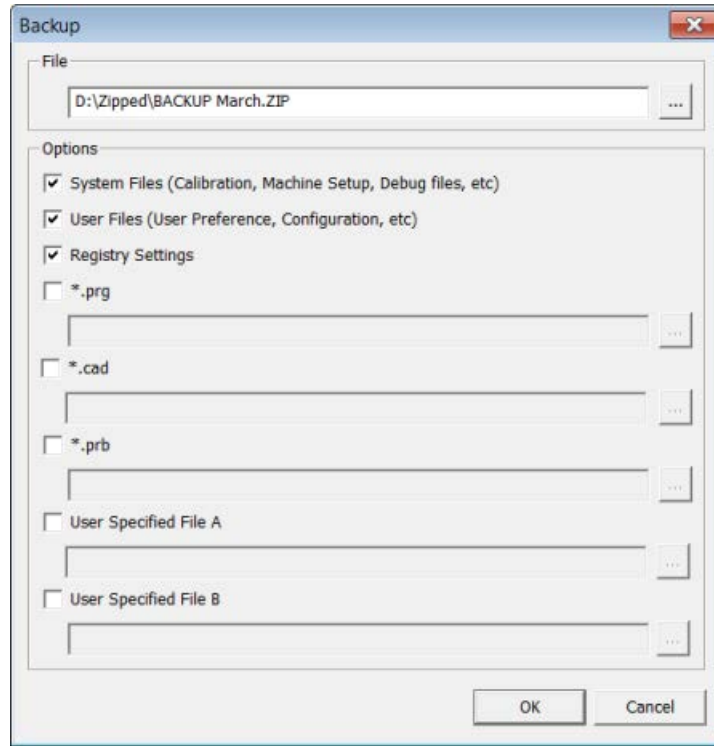
3. In the **File** box, define a safe location to save the backed up files, and give the file a .zip extension.

4. Mark the first three check boxes, and click **OK**.

- By default, PC-DMIS attempts to migrate existing settings from previous installs on the same computer, even from really old versions of PC-DMIS where settings were stored in the pcdlrn.ini file.

  If you are replacing your computer or transferring settings that reside on another computer, you can use the Settings Editor's **Backup** and **Restore** buttons:
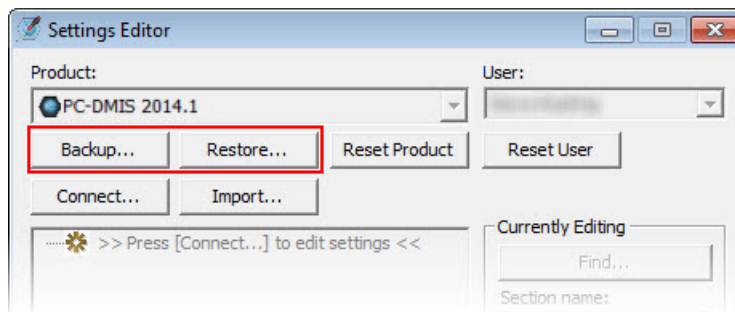
  See the help documentation for the Settings Editor if you need more information on the backup and restore functionality.

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 on a new computer, save copies of the following CMM machine files from your previous version to a safe place:

- comp.dat
- downl.oad

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

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

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

  Where <version> is the PC-DMIS version.

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

Starting with PC-DMIS 2013 MR1, the comp.dat file moved to: C:\ProgramData\WAI\PC-DMIS\<version>

Backing Up Machine Files for a CMM with a DEA Controller

If you are using a DEA or other CMM with a DEA machine controller, and you are going to install PC-DMIS 2014.1 on a new computer, save copies of the following CMM machine files from your previous version to a safe place (the files vary according to the type of CMM):

- cosdat1.bin
- compens.dat
- Fzyfile.txt
- Rcxfile.txt
- Rmxfile.txt
- Any file with your machine's serial number in its name

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

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

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

  Where <version> is the PC-DMIS version.

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

Starting with PC-DMIS 2013 MR1, the compens.dat file moved to: C:\ProgramData\WAI\PC-DMIS\<version>

Step 4: Install PC-DMIS

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

1. Locate the PC-DMIS install file on your installation media; or, if you downloaded it, open the directory containing the downloaded file. The install file looks like this: Pcdmis2014.1_Release_#.#.###.#_x##.exe, where the # symbols represent the specific version numbers and the version type (x64 or x86).

2. Double-click this executable to begin the installation process. If a security warning appears, click **Run**. The files are extracted to a temporary directory:
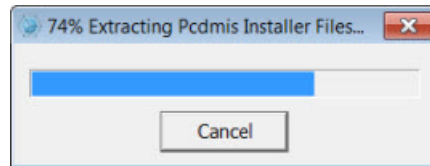
The **Choose License Type** screen appears:
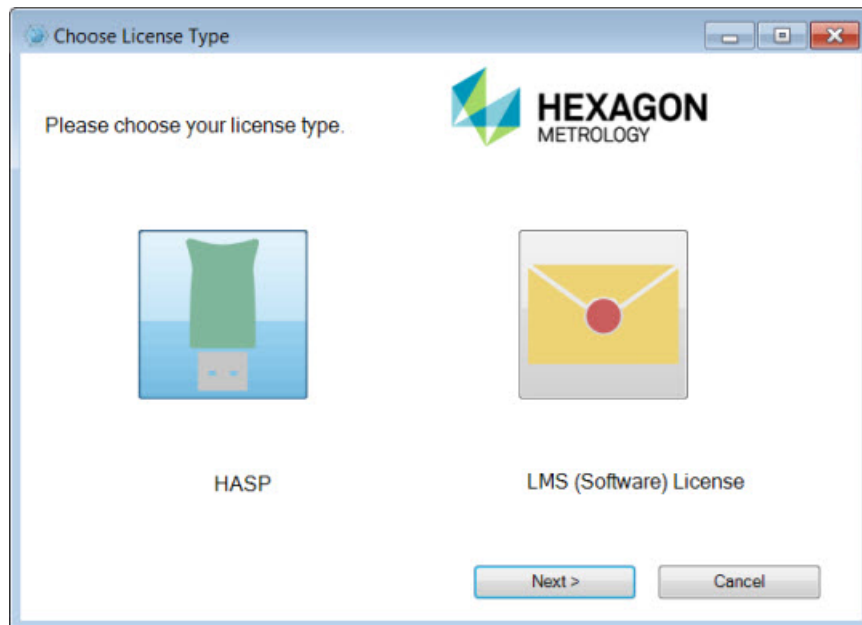
3. Select one of the following license types:

   - **HASP** - If you have a physical USB portlock, ensure that it is connected to your computer, and then select this license type. It is selected by default.

   - **LMS (Software) License** - If you have been issued a software license (called an Entitlement ID), or if you are connecting to a local license server, select this license type.

   Click **Next**.

4. If you chose **HASP**, ignore this step, and proceed to step 6. If you chose **LMS (Software) License**, and it cannot find a valid license on your system, you need to fill out the **LMS License Setup** dialog box:

Fill out the **LMS License Setup** screen as needed:

- **Use Entitlement ID** - If you have an Entitlement ID, select this item, and then type or paste the ID you were issued in the box.

- **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** - You only need to fill this out if you are on a network where a proxy server is needed to reach the Internet. Contact your IT specialist to get this information, and then fill in the server host, user name, and password.

- **Use License Server(s)** - If you are using a local license server, select this item, and then type your license server name. The format of this line of text should be <portnumber>@<servername>, where <portnumber> is the TCP port number for the license server and <servername> is the name of the server. The default TCP port number is 27000, and is used automatically if no specific port number is identified. For example, these mean the same thing:

  @server1

  27000@server1

> **Important:** When using this option, make sure the "@" symbol is used in front of the server address. If the "@" symbol is left off, the install attempts to look locally for the license which may result in an error.

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

@licenseserver1;@licenseserver2;@licenseserver3

If you do not have an Entitlement ID and need to activate your license offline, click the **CLM Admin** button and follow the instructions.

> **Note:** Please consult the PC-DMIS CLM Licensing Software documentation (pcdmisclm.chm) located in the PC-DMIS language subdirectory.

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

Providing LMS Licensing Information to the Installer from the Command Line

LMS licensing information can be sent 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.

LMS License Update

Once the licensing is completed and PC-DMIS is installed, PC-DMIS checks for license updates on startup and every eight hours of running. If a license update is available, a notification message appears:

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

Click **Yes** to apply the update. If **No** is clicked, PC-DMIS displays the message every eight hours of running or on the next startup.

- If an option or 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 requesting you to restart PC-DMIS is displayed. A pop-up message also displays in the System Tray to inform you of this.

- If an option or feature is obsolete, it is automatically removed.

> **Note:** To ensure that PC-DMIS functions properly, you must restart PC-DMIS after any update is applied.

5. The main setup screen then appears:

Click **Next**.

6. The license agreement then appears:

7. Read and accept the license agreement, and then click **Next**. The **Choose Setup Type** screen appears:
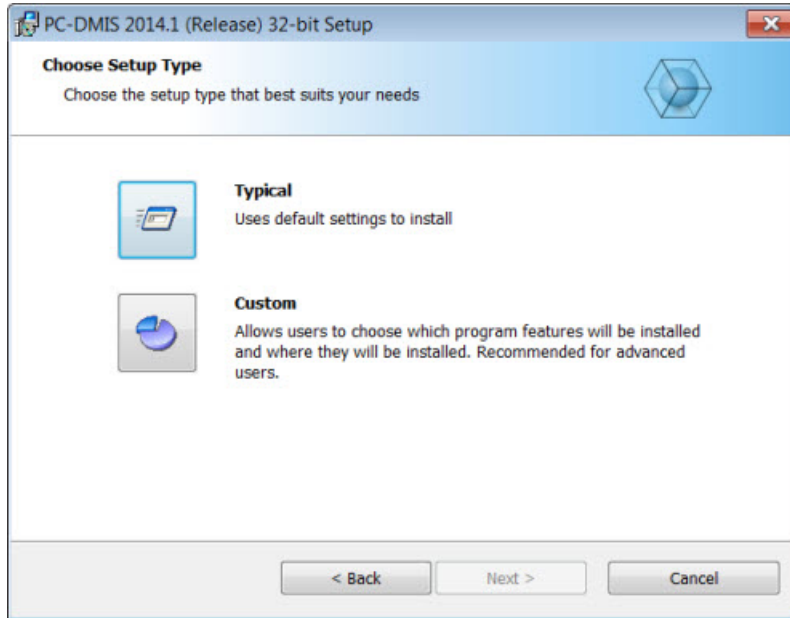
8. Choose a setup type:

    *   **Typical** - This option installs the program files to the default installation location: C:\Program Files\WAI\PC-DMIS 2014.1\

    *   **Custom** - This option lets you specify what components to install as well as customize the installation location. A screen similar to the following screen opens:
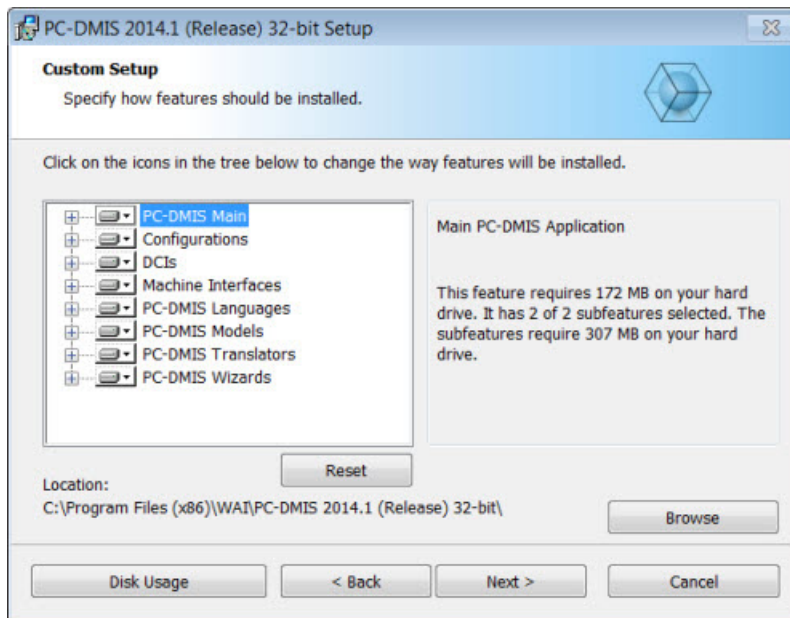
Customizing Installed Features

By default, all program components are selected to be included in the installation. You can use the tree view to customize when or if these features are installed. To do this, click the small drop-down icon ⬛▾ next to the component to exclude. This list appears:
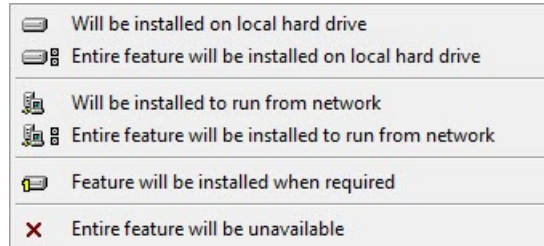
Choose the desired option:

- **Will be installed on local hard drive** - The selected feature is installed to the hard drive on your computer.

- **Entire feature will be installed on local hard drive** - The entire feature is installed to the hard drive on your computer. This means that sub-features of the selected feature are also installed.

- **Will be installed to run from network** - *This option is currently unsupported.* This option installs the selected feature on a network share.

- **Entire feature will be installed to run from network** - *This option is currently unsupported.* This option installs the entire component to a network share. This means that sub-features of the selected feature are also installed.

- **Feature will be installed when required** - The feature is only installed if required during the installation process. Some files are informational and are not required for the application to run. These may include documentation or other files.

- **Entire feature will be unavailable** - This option excludes the component from installation.

Customizing the Installation Location

By default, the program installs to this location under the "PC-DMIS 2014.1" directory:

- C:\Program Files (x86)\WAI\ (if you have a 32-bit version)
- C:\Program Files\WAI\ (if you have a 64-bit version)

To change the default location, click the **Browse** button and navigate to the directory on your computer that you want to hold the program files. When you click **OK**, the **Location** box changes to show the selected location.

If you ever want to reset the items to the default selection, click **Reset**.

Click **Next** when you have finished customizing the install.

9. Once the installation has all the information it needs, the **Ready to Install** screen appears:
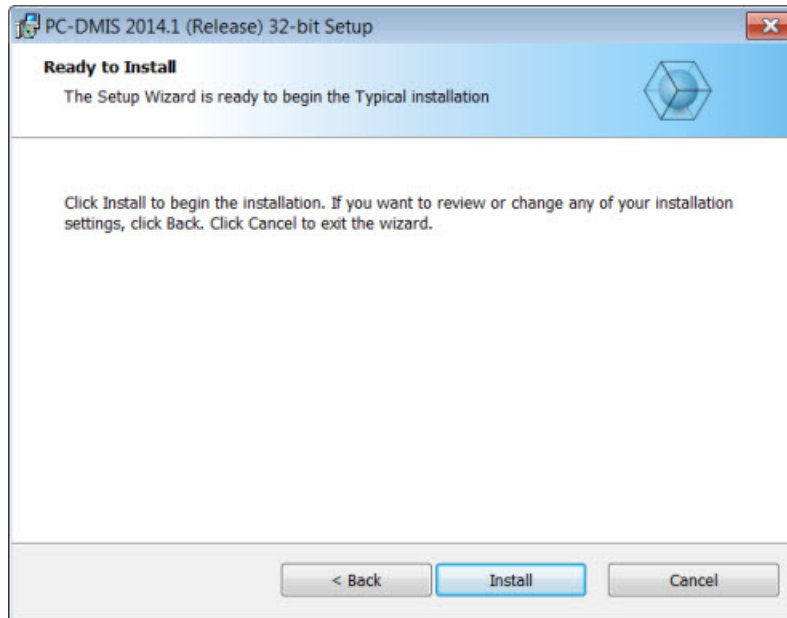
10. Click **Install**. When the installation finishes, this final screen appears:
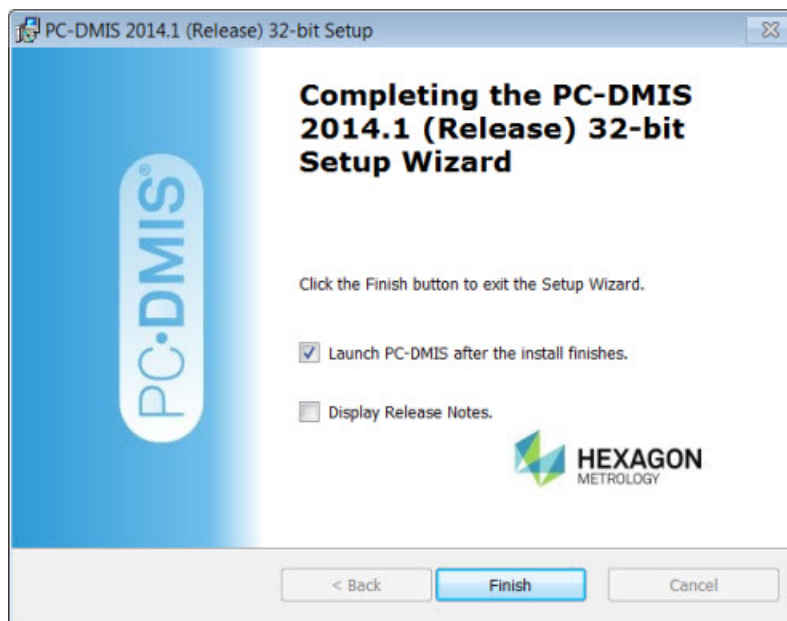
- **Launch PC-DMIS after the install finishes.** - Mark this check box to launch the application once you click **Finish**. You should do this so that the needed registry entries are initialized. For more information, see "Administrator Privileges Explained".

- **Display Release Notes.** - Select this check box if you want to see a PDF file that shows what is new or has changed in this release once you click **Finish**.

11. Click **Finish** to close the installation program. PC-DMIS is now installed.

Administrator Privileges Explained

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

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

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

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

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

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

Step 5: Copy Files after Installation

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

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

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

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

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

Copying Machine Files for an Xcel CMM or a Sharpe Controller

If you are using a Brown and Sharpe Xcel CMM or a CMM that uses a Sharpe controller, and you installed PC-DMIS 2014.1 on a new computer, copy the backed-up CMM machine files to the following location on the new computer:

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

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

  Where <version> is the PC-DMIS version.

For 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 2014.1 on a new computer, copy the backed-up CMM machine files to the following location on the new computer:

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

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

  Where <version> is the PC-DMIS version.

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

Step 6: Launch PC-DMIS for the First Time

1. When running this version of PC-DMIS for the first time, choose **Start**, **All Programs**, and then **PC-DMIS 2014.1**.

2. From the list of shortcuts, right-click on either the **Online** or **Offline** icon, and then select the **Run as administrator** option (required only if the **Launch PC-DMIS after the install finishes** check box wasn't checked at the end of the installation).
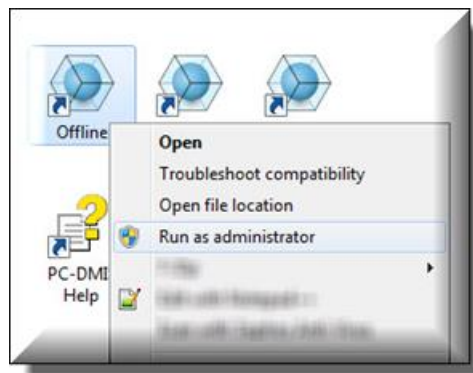
3. This allows the program to write the needed machine-specific settings.

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

    - If your previous version used the Settings Editor, do the following to use your previous PC-DMIS settings:

        a. Close down PC-DMIS.

        b. Launch the PC-DMIS Settings Editor from the Start menu.

        c. Once it opens, click **Import**, and open the PCDRegFile.dat file you backed up in the "Step 3: Back Up Existing Settings and Layout Data Files" section of this document. PC-DMIS imports your settings.

        d. Close down the PC-DMIS Settings Editor.

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

Once PC-DMIS starts, the **Software License** screen displays the current license agreement. Read the agreement carefully and then at the bottom, click **Accept Agreement** to proceed:
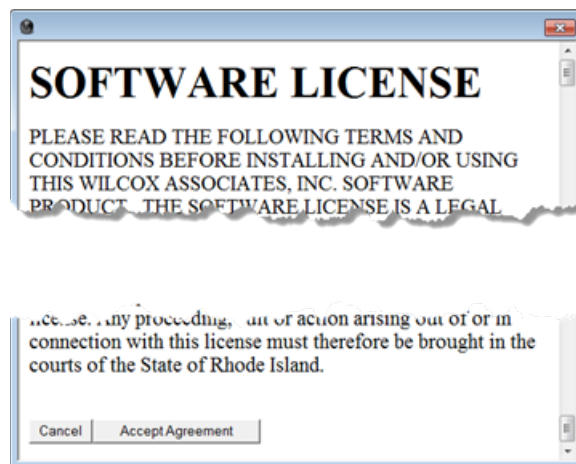
Once PC-DMIS runs, an icon displays in your System Tray. If your portlock or license is programmed correctly, the icon displays a green check mark as shown below. A message says that the PC-DMIS license is valid:

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

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

Note About CMMs Using RS-232 Communications

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

To change the COM port number:

1. In Windows Device Manager, note the number that Windows assigned to the communications port on your computer. For help, refer to Windows Help.

2. Open PC-DMIS in online mode, and then open a measurement routine.

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

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

Updating the Software

By default, PC-DMIS automatically checks for updates to the software if you are connected to the Internet. If it detects that an update is available, the **Hexagon software updater** opens to inform you of the software update. You can then download and install these updates as desired. You can also manually check for updates by clicking **Help** and then clicking **Check for updates**.

If you need information on using the software updater, see "Updating the Software" in the PC-DMIS Core documentation.

Modifying, Repairing, or Removing the Installation

You can also modify or repair an installation as needed once it is installed. To do this, double-click on the **Pcdmis2014.1_Release_#.#.###.#_x##.exe** file as if you were beginning the installation process. The setup displays the **Modify, Repair or Remove installation** screen with these options:
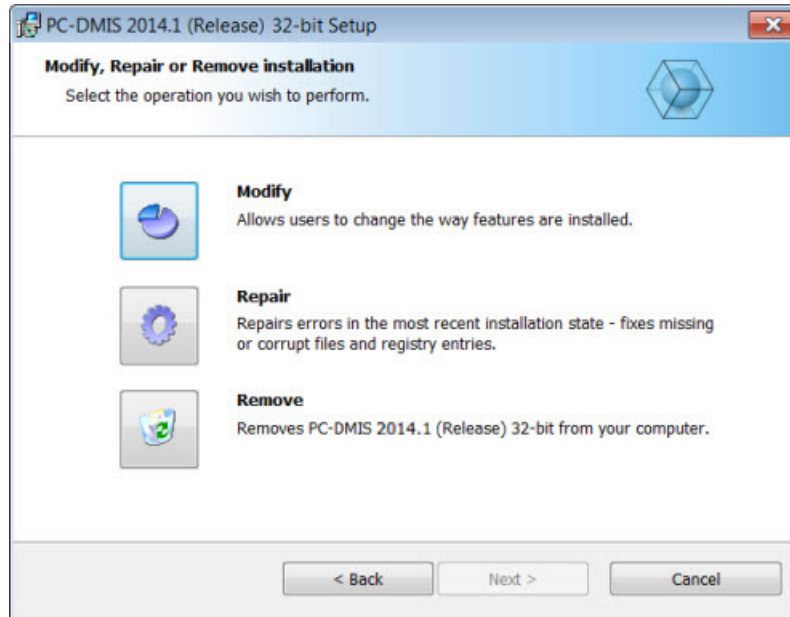
- **Modify** - This option opens the **Custom Setup** screen as discussed in "Step 4: Install PC-DMIS". Use this option to change the installed features, either by adding something that was previously not installed or removing a software feature that you no longer need.

- **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.

- **Remove** - This option removes the application from where it was installed. You can also uninstall the application using the Programs and Features control panel item in Control Panel.

Running PC-DMIS in Another Language

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

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

PC-DMIS restarts and displays the application in the desired language. See the information below on how to get the help content available in a non-English language.

Installing Non-English Help Files from Language Packs

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

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

A language pack contains all of the help content for that language.

To install a language pack, do the following:

1. Locate the desired language pack (and .exe file) on your installation media or download it from the Internet here:
   ftp://ftp.wilcoxassoc.com/PC-DMIS-Versions/Release/2014.1/Release/Lang

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

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

Troubleshooting

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

PC-DMIS Startup Is Slow

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

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

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

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

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

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

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

Setting Up the Network to Send Crash Reports

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

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

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

Installing on Top of an Existing Version Results in Unexpected Behavior

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

- After you start up the software, you get a "Procedure Entry Point" error.

- When you select **Help | About PC-DMIS**, it does not show the new build number.

- Reported bug fixes do not seem to be fixed, and PCDLRN.EXE does not have a newer date and time than the original release.

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

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

Running the Legacy DPUPDATE.EXE Does Not Work

Problem: The legacy DPUPDATE.EXE does not run.

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

Solution: Run PC-DMIS with administrator privileges.

Information about this Release

We at Hexagon Metrology are proud to bring you this new version of PC-DMIS 2014.1 Release. This Enterprise Metrology Solutions platform brings together new aspects of PC-DMIS for the development of a complete manufacturing process control solution. Available in this release are variations of PC-DMIS designed to assist with every aspect of the fabrication and quality control process. The newly created packages include the established PC-DMIS Laser, PC-DMIS NC, PC-DMIS Pro, PC-DMIS CAD, and PC-DMIS CAD++ platforms.

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

Testing is comprised of two parts. These can be described as functional testing and integration testing. The vast majority of testing effort goes on in the functional area. This is the testing that determines that specific functions that are core to the software, regardless of what type of machine is used, are working correctly. The integration testing is essentially a testing of the interface with a particular type of machine.

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

Should you experience problems with your system after you install PC-DMIS 2014.1 Release, it could possibly be an integration problem. If it is a problem of this nature, it will probably be evident immediately upon first use of the possibly untested configuration. See "Contact Hexagon Metrology" on how to report any integration problems. Should such a problem materialize on a commercial release, you will be given the highest priority for correcting these problems.

For existing users of PC-DMIS who currently have earlier versions of PC-DMIS installed, it is advised that PC-DMIS 2014.1 Release be installed into a new directory. In this way, you can be assured of continuous use of the existing version should problems arise with this newer version.

New Product Information

2014.1 SP1 Release

Release date: January 23, 2015

Version 2014.1 SP1 is a Service Pack release of the software. For a listing of the enhancements and fixes in this release, refer to "Release Notes - 2014.1 SP1".

2014.1 Release

Release date: November 14, 2014

The 64-bit version of PC-DMIS is only supported on Windows 8.1, Windows 8, Windows 7, and Windows Vista. It is not supported on Windows XP.

Version 2014.1 is a significant development release of the software. For a listing of the enhancements in this release, refer to "Release Notes - 2014.1".

About the PC-DMIS 64-Bit Version

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

- CAD (3D ACIS data embedded inside of DXF Files)
- Translators (Avail, Datalog, MeasureMax, MMIV, and Tutor)
- NC product line
- Vision (MEI, Metronics, QVI, ROI, TESAI++, and TESAVISIO). Note that the FDC and Leitz controllers are available in the 64-bit version.
- CMM (B & S Backtalk, Embedded Board, Manmiti, Manmora, Metrocom, Mitutoyo GPIB, GeoCom, GOM, LK, ManualCMM, Numerex, Omniman, Tech80, and anything using the parallel port driver)
- Portable (FaroArmUSB and Axila)

"Part Program" Terminology Change

Starting with version 2014.1, a "part program" is referred to as a "measurement routine".

Note about Calculation of Angle Dimensions

In version 2014, PC-DMIS changed its method of calculating angle dimensions near 0 and 90 degrees. If you load a part program from version 2013 MR1 or earlier into the current version, PC-DMIS displays a Migration Report that lists the angle dimensions that have been unmarked for execution and should be checked.

For nominal angles within 10 degrees of a quadrant boundary (0, 90, 180, 270, 360, -90, or -180 degrees), the positive/negative sign of the measured angle is enforced. This prevents a measured angle of -1 degrees from being reported as +1 degrees to match the same quadrant as a nominal angle of 2 degrees. This also prevents a measured angle of 92 degrees from being reported as 88 degrees to match the same quadrant as a nominal angle of 89 degrees. To turn off this behavior, set the value for the **EnforcePositiveNegativeAngles** registry entry in the Settings Editor application to False.

To change the sign of a nominal angle near 0 degrees or choose the supplemental angle of a nominal angle near 90 degrees:

1. Flip the direction vector of one of the features.

2. Create a line that represents the X, Y, or Z axis.

3. Reverse the sequence of feature 1 and feature 2.

4. Or, perform a combination of the above steps.

Running the PC-DMIS Universal Jogbox Utility

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

- Start the utility as XP-SP2 compatible:

    1. Right-click on the **PC-DMIS Universal Jogbox Utility** icon on your desktop, and then select **Properties**.

    2. Select the **Compatibility** tab.

    3. Select the **Run this program in compatibility mode for** check box, and then select **Windows XP (Service Pack 2)** in the list.

    4. Select **Apply** and then **OK**.

- After the utility has been installed, do not run it as an administrator.

- Run the utility with the logon account properties that are set for the current user.

Release Notes - 2014.1 SP1

- PCD-9521 - Fixed an issue where vectors of probed points were not always captured correctly when using a Tech 80 machine interface.

- PCD-36697 - Fixed an issue where the labels on the CAD report were in the wrong positions, and the features were not visible, when Ctrl+U (Execute from Cursor) was used to execute a measurement routine. Also fixed an issue where the CAD report did not appear when Ctrl+L (Execute Block) was used to execute a measurement routine.

- PCD-42113 - Fixed an issue where message prompts in the French version of PC-DMIS appeared in the wrong order during probe changer calibration.

- PCD-46426 - Fixed an issue where the calibration data in a measurement routine with an auto calibration routine with temperature compensation was incorrect.

- PCD-48114 - Fixed an issue where PC-DMIS stopped working during a scan when the scan speed was changed in a dual-arm measurement routine that used pointcloud data.

- PCD-48947 - Fixed an issue where a machine sometimes followed an unexpected path instead of the animated offline pathlines when measurement routines with clearance planes were executed.

- PCD-49312 - Fixed an issue where a Faro arm stopped responding when an iterative alignment was remeasured. As a result of this fix, the **Faro_Interface** section was added to the Settings Editor application. For information on the registry entries in this section, refer to the Machine Interface Installation Manual (MIIM).

- PCD-51544 - Fixed an issue where an XactMeasure Position calculation of a feature with a planar zone resulted in incorrect position values.

- PCD-52495 - Fixed an issue where "unexpected probe hit" error messages occasionally appeared when a Zeiss machine moved in three axes.

- PCD-52744 - Fixed an issue where scan FindNoms operations occasionally caused nominal vectors to flip 180 degrees, which caused probe compensation to be applied incorrectly.

- PCD-53626 - Fixed an issue where the concentricity and perpendicularity Feature Control Frames showed incorrect results in the report when the measurement routine was executed in a newer version of PC-DMIS.

- PCD-53731 - Fixed an issue where PC-DMIS did not recognize a dimension's diameter tolerances for a Feature Control Frame unless the **Advanced** tab was selected before **OK** was selected in the **XactMeasure GD&T** dialog box.

- PCD-54038 - Fixed an issue where an "Invalid Index" error appeared when a CAST point was constructed using a hit index from a scan hit, and the measurement routine was executed offline.

- PCD-56507 - Fixed an issue where translated text was truncated in the **Constructed Circle** dialog box for the **Cone**, **Sphere**, and **Cylinder** options.

- PCD-56750 - Fixed an issue where in PC-DMIS Vision, laser commands were deleted without regard to their operating status.

- PCD-57530 - Fixed an issue where PC-DMIS rotated a datum width 90 degrees at the opposite end of the part, and all GD&T dimensions that were associated with the datum were out of position.

- PCD-58217 - Fixed an issue where PC-DMIS Laser did not execute move points in a measurement routine when Ctrl+U (execute from cursor) or the Execute from Start Points command was used to execute the measurement routine.

- PCD-58223 - Fixed an issue with the Optiv SLC-FDC interface in PC-DMIS Vision where the HSI did not initialize when it tried to open or create a measurement routine in offline mode.

- PCD-59090 - Fixed an issue where the RADIUS value for a GENERIC/CIRCLE feature was halved when a measurement routine was opened.

- PCD-59301 - Fixed an issue where a plane feature dimensioned Parallel at MMC to a datum cylinder incorrectly appeared in the Report window as out of tolerance for a Parallelism Feature Control Frame dimension.

- PCD-59463 - Fixed an issue where calibrated tips incorrectly appeared as uncalibrated in the **Probe Utilities** dialog box when a measurement routine contained tip orientations that differed from the orientations used for the map.

- PCD-59960 - Fixed an issue where the hits for a measured round slot could not be moved from the Graphic Display window.

- PCD-59963 - Fixed a scaling issue that occurred when IGES CAD models that were exported from a measurement routine into a directory pathway that exceeded 72 characters and later imported into a measurement routine.

- PCD-60051 - Fixed an issue where PC-DMIS drew the cone Auto Feature upside down in the Graphic Display window.

- PCD-60407 - Fixed an issue where PC-DMIS stopped working when a SELECT and SELECT/END command pair was entered into the Edit window, cut from the Edit window, pasted back into the Edit window, and then deleted.

- PCD-60468 - Fixed an issue where auto vector points were sometimes evaluated from the opposite surface of the model when they were selected from flat CAD surfaces on an STL (stereolithography) model.

- PCD-60485 - Fixed an issue that may have caused a part collision when a Perimeter scan with incorrect vectors was executed.

- PCD-60617 - Improved the time that PC-DMIS takes to execute a measurement routine with captured images.

- PCD-60771 - Fixed an issue where an error message should have been displayed when the scan path for a Perimeter scan was executed, but the sensor was not correctly turned on.

- PCD-61092 - Fixed an issue where PC-DMIS stopped working when a selection that included COP (Cloud of Points) and MESH commands in the Edit window was deleted.

- PCD-61460 - Enabled the I++ server to report A and B angles according to Zeiss conventions.

- PCD-61502 - Fixed an issue where PC-DMIS stopped working when **Insert | Move | Move All** was selected to insert a MOVE/ALL command into a dual-arm measurement routine.

- PCD-62122 - Fixed an issue where PC-DMIS Vision auto features reset to minimum magnification when a measurement routine was saved on a system with zoom optics.

- PCD-62279 - Improved the time that PC-DMIS took to display the **XactMeasure GD&T** dialog box when F9 was pressed for a Feature Control Frame Position with many holes.

- PCD-62390 - Fixed an issue where an offset point could not be created from a feature to a CAD point.

- PCD-62464 - Fixed an issue with Feature Based Measurement where a measurement routine attempted to measure features that had not been machined yet.

- PCD-62606 - Fixed an issue where PC-DMIS displayed a "missing toolkit" warning and then stopped working when a measurement routine measured the first feature.

- PCD-62661 - Fixed an issue where a measurement routine did not execute after the execution was first canceled in the **Execution** dialog box and then later restarted.

- PCD-62731 - Fixed an issue where PC-DMIS incorrectly changed the values for a MOVE/POINT command, causing a collision, when **Operation | Graphic Window Display | CAD Equals Part** was selected.

- PCD-62939 - Fixed an issue where PC-DMIS stopped working if the number of views changed in the **View Setup** dialog box while the **3D Rotate** dialog box was open.

- PCD-63198 - Fixed an issue where PC-DMIS interpreted most of the hits that were taken on a manual CMM with a Reflex Passthrough machine interface as having vectors that were the opposite of the actual vectors.

- PCD-63396 - Fixed an issue where automation changed some property values on a CadReportObject that resided on a different page.

- PCD-63547 - Fixed an issue where, during an automated measurement routine, a message about remeasuring points incorrectly appeared and the routine stopped working when an iterative alignment was created in automation mode.

- PCD-63580 - Fixed an issue where the DMIS output was incomplete when the Flush & Gap Auto Feature in PC-DMIS Laser was dimensioned.

- PCD-63582 - Fixed an issue with an AT402 interface where the tracker status in PC-DMIS exited from Ready status when a reflector was loaded after a B-Probe.

- PCD-64410 - Fixed an issue where statistics files in the UTF-16 encoding format could not be imported into DataPage+.

- PCD-64462 - Fixed an issue where the Zeiss direct TCP interface hit vector did not account for axis reversal.

- PCD-64466 - Fixed an issue that occurred during probe calibration where the wrong angle was reported at the end of a rotation.

- PCD-64740 - Fixed an issue where the **Settings** toolbar was visible when PC-DMIS was in Operator mode.

- PCD-64810 - Fixed an issue where the measured value in a measurement routine was updated when values were entered in the **Dimensional Keyin** dialog box during measurement routine execution, but statistical data and the data on the inspection report retained the values from the previous measurement routine.

- PCD-64871 - Associated point cloud meshing with an LMS licensing option.

- PCD-65088 - Fixed an issue where the **Bottom of Last Page in Section** rule in the Rule Tree Editor did not support multiple rules.

- PCD-65181 - Fixed an issue where dimensional information for Hyper Reports did not use the same level of decimal precision as defined in a DISPLAYPRECISION command.

- PCD-65265 - Fixed an issue where the amount of time that PC-DMIS used to copy statistical files to a network share when the STATS/TRANSFER command was used was unacceptable.

- PCD-65391 - Fixed an issue where PC-DMIS stopped working when the Edit window appeared while a measurement routine was opening.

- PCD-65677 - Fixed an issue with the Adaptive Free Form Plane Scan strategy where PC-DMIS stopped working when the **Increment** and **Offset** options on the **Path Definition** tab for the Perimeter Paths method were changed and then the **Generate** button was selected.

- PCD-65866 - Fixed an issue where PC-DMIS NC stopped working when from the NC Server interface, the **Hold** button was clicked and PC-DMIS NC was opened in offline mode.

- PCD-66479 - Fixed an issue where PC-DMIS displayed errors and then stopped working when F9 was pressed on a CopToCad alignment in a non-English user interface.

Release Notes - 2014.1

For detailed information and video tutorials regarding the enhancements, log on to www.pcdmis.com.

Featured Items

New "Create Section Cut Curves" Button

The **Create Section Cut Curves** button was added to the **Clip Planes** tab in the **CAD and Graphic Setup** dialog box (**Edit | Graphic Display Window | Lighting, Materials**). You can use this button to create section cut curves (or polylines) from the intersection of the clipping plane and the CAD. A section cut from where a clipping plane intersects with the part results in a set of curves. These section cut curves behave like any other curve in the CAD model. You can select and program them to be measured by your measurement routine.

You can view the section cut curves in the assembly tree view in the **CAD Assembly** dialog box (**Edit | Graphic Display Window | CAD Assembly**).

Note that versions prior to 2014.1 do not support section cut curves. If you save your measurement routine to a version prior to 2014.1, PC-DMIS removes the section cut curves from the CAD model that is associated with that measurement routine.

For details about section cut curves, refer to "Creating and Viewing Section Cut Curves" in the PC-DMIS Core documentation.

Applying One Rule to All 2D Angle Dimensions

The **To** and **From** options were added to the **Angle** dialog box (**Insert | Dimension | Angle**) for the 2D angle type to keep track of the quadrant of the nominal angle. These options determine the direction of the calculation and the resulting sign (positive or negative) as follows:

- **To**: PC-DMIS calculates the angle from feature 1 to feature 2 (or the selected axis).
- **From**: PC-DMIS calculates the angle to feature 1 from feature2 (or the selected axis).

By default, PC-DMIS uses the angle from feature 1 to feature 2 (or the selected axis). If you want the supplemental angle (180 degrees - angle), select the new **Supplemental Angle** check box in the dialog box.

For details about these new options, including examples, refer to "Dimensioning Angle" in the PC-DMIS Core documentation.

New Blade COP Section Toolkit Module

In general, scanning probes are used to measure blades. However, a requirement may exist to use scanners to measure blades. The new Blade COP Section toolkit module (**Insert | Modules | Blade COP Section**) fulfills this requirement because it uses any type of scanner device to construct a blade section by cutting the cloud of points (COP) that was collected. The Blade COP Section module enables you to measure multiple blade sections and perform a blade analysis.

The Blade COP section command requires a Nominal file as described in PC-DMIS Blade Analysis. You can use the Blade Nominals Editor command (**Operation | Modules | Blade Nominals Editor**) to generate the file. The Blade COP Section command needs to read the Nominal file for the blade (BladeName.nom).

For details about the new Blade COP Section toolkit module, refer to "Using the Blade COP Section Module" in the PC-DMIS Core documentation.

Improved Accuracy on Dual-Arm Machines

The AUTOCALIBRATE/MULTIPLEARM command, which automatically calibrates the current probe when PC-DMIS executes a measurement routine, was changed as follows:

- The CALIBRATION_MODE item was changed to MEASURE_MODE. This item indicates the calibration mode: Manual or DCC.

- The OPERATION_TYPE item was added. This item indicates the calibration type: Orientation and Origin, or Origin Only. The Orientation and Origin type is new; previously, PC-DMIS supported only the Origin Only type.

To set up the command, select **Insert | Calibrate | AutoCalibrate Multiple Arm** and then complete the **AutoCalibrate Multiple Arms** dialog box.

For details about the enhancements to the command and the dialog box, refer to "Performing an Automatic Calibration" in the PC-DMIS Core documentation.

Selecting a Void Detection Method for Contact Auto Plane Auto Feature

You can select multiple colinear or coplanar CAD entities when you use Quick Feature functionality to create a contact auto plane Auto Feature. Void Detection creates a hit pattern that considers all of the selected entities. You can turn this functionality on or off through the new `VoidDetectionNewAlgorithm` registry entry. This entry enables you to select a Void Detection method to compute the distribution of hits when you create the feature.

For complete information, refer to "VoidDetectionNewAlgorithm" in the Settings Editor documentation.

Integration of PC-DMIS and Teamcenter

PC-DMIS was integrated with Teamcenter, an MMS (Metrology Management System) database package developed by Siemens. You can use this new feature to establish communications between PC-DMIS and Teamcenter. You can also use it to open a measurement routine and load NX models from Teamcenter.

For complete information, refer to "Using Teamcenter" in the Direct CAD™ Interfaces and Translators documentation.

New "Edit Color Scale" Button for Surface and Point Pointcloud Operators

You can use the new **Edit Color Scale** button in PC-DMIS Laser to configure colormap properties for Surface Colormap and Point Colormap pointcloud operators. For example, you can:

- Change the number of color zones and tolerance zones that display in the color bar

- Select a predefined color scheme for the color bar

- Specify the tolerance zones and colors associated with the measured values in relation to the respective tolerances

- For a surface pointcloud operator, map a color to the surface where there is no CAD data

- Import and export color bar schema files

To configure colormap properties, select **Insert | Pointcloud | Operator**. For complete details, refer to "Edit Color Scale" in the PC-DMIS Laser documentation.

Filters and Exclusion Planes for Pointcloud Data

You can filter pointcloud data for a portable laser configuration by choosing to either filter the data based on the distance density (a point distance value) or remove a percentage of the data that PC-DMIS collected.

You can also define an exclusion plane, which is useful for removing all points within the defined area of the plane. The plane can be defined by its normal point and an anchor point; these points are independent of any data filtering. In addition, an offset value offsets the plane in the defined normal direction.

To set up a data filter and an exclusion plane, select **Operation | Pointcloud | Data Collection**, or click the **Pointcloud Filtering Plane** button on the **QuickCloud** toolbar. The **Laser Data Collection Settings** dialog box appears. Set the desired filter and exclusion plane options.

For details about section cut curves, refer to "Laser Data Collection Settings" in the PC-DMIS Laser documentation.

Aligning Pointclouds by Point Pairs and Best Fit

Pointcloud to pointcloud alignment functionality was added. You can use this feature to best-fit align two pointclouds that have been collected in two different reference frames that have some overlap. A typical example is two scans in two pointcloud commands, which represent areas of a part that cannot be scanned in the same part orientation.

To align two pointclouds, you need to have two or more COP commands in the measurement routine that you are using to align. To perform an alignment, select **Insert | Pointcloud | Alignment**. For details, see "Creating a Pointcloud/Pointcloud Alignment" in the PC-DMIS Laser documentation.

New Mesh Command

The new Mesh command creates a mesh from any number of pointclouds. To perform a mesh operation, you would select the features and pointclouds to be meshed together from a list, and then update other parameters (such as the points distance and deviation error) as needed. You can also specify the number of triangle and vertices defined in your Mesh feature.

You can export a Mesh file in stereolithography (STL) format by selecting **File | Export | Mesh | STL**.

To use the Mesh command, select **Insert | Pointcloud | Mesh**, or click the **Pointcloud Mesh** button on the **Pointcloud** or **QuickCloud** toolbar. For details, refer to "Creating a Mesh Feature" in the PC-DMIS Laser documentation.

New Extended Surface Point Calculation Method

The Extended Surface Point calculation method was added. This method can calculate the surface point by fitting a local 2-curvatures manifold on the scan points within the circular area defined by the horizontal and vertical clipping parameters. This method is especially useful for calculating surface points on fillet surfaces.

You can select this calculation method by setting the `SurfacePointType` registry entry in the Settings Editor application to "2".

For details about this method, see "Extended Surface Point Calculation Method" in the PC-DMIS Laser documentation. For details about the registry entry, see "SurfacePointType" in the Settings Editor documentation.

Quick Feature Functionality Added to Laser Auto Features

Quick Feature functionality was added to laser Auto Features. This enables you to create a laser auto feature by clicking on the CAD instead of completing the **Auto Feature** dialog box (**Insert | Feature | Auto**).

For more information on implementing Quick Feature functionality for laser Auto Features, refer to "Implementation of Quick Features in PC-DMIS Laser" in the PC-DMIS Laser documentation. For more information on Quick Features, see "Creating Quick Features by Hovering over CAD Elements" in the PC-DMIS Core documentation.

Improved Laser Wrist Map Creation Time

The amount of time that PC-DMIS 2014.1 requires to create a laser wrist map is approximately 10 times faster than it was in previous versions.

New Vision Distance-Based Outlier Filter for Automatic Hit Target Feature Parameters

A distance-based outlier filter for the automatic hit target measuring method with a filter parameter set is available for a Vision probe. This filter is available only for the non-legacy version of the Vision Profile 2D feature.

To use this new filter, select the **Hit Targets** tab in PC-DMIS (**View | Other Windows | Probe Toolbox**). For details, refer to "Automatic Hit Target - Filter Parameter Set" in the PC-DMIS Vision documentation.

Quick Features Implemented in PC-DMIS Vision

Quick Feature functionality was implemented in PC-DMIS Vision for a Vision sensor. You can use this functionality to create an auto feature (except for Blob and 2D Profile) from a single click on the CAD without using any menu options or dialog boxes.

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

Auto Features

- PCD-49160 - Added the ability to void detect a hit pattern over multiple CAD entities for the contact auto plane Auto Feature. For details, see "Featured Items".

- PCD-47715 - Added the ability to select CAD curves by clicking on them when creating a vector point Auto Feature (**Insert | Feature | Auto | Point | Vector**).

- PCD-28094 - Added the **Inner/Outer/None** list to the **Auto Feature** dialog box for a vector point Auto Feature in Polar mode. If you create points at different polar coordinates, the vector follows the option that you select in the list - **Out**, **In**, or **None**.

- PCD-39712 - Changed the auto wrist algorithm to use the surface vector for the contact auto line and auto edge point (previously, the mid vector between the surface and edge vector was used).

- PCD-50811 - Added the **Within Feature** option to the **Operation | Graphic Display Window | Clearance Moves** menu. This new option works only in Quick Feature mode. If you mark this menu item with a check box and then create a Quick Feature, PC-DMIS checks the probe path inside the feature and adds clearance moves as needed within the feature. (This differs from the **With Feature Creation** menu item, which adds clearance moves between features.)

- Improved Quick Feature functionality for CAD elements as follows:

    - PCD-49465 - When you press and hold Shift while hovering your mouse pointer over an edge point feature, the entire edge curve is no longer highlighted, and two arrows that represent the surface and edge vectors are drawn. When you hover your mouse pointer over a line, the line curve is highlighted, and two arrows that represent the surface and edge vectors are drawn.

    - PCD-55011 - To create an angle point, you can press and hold Shift and then hover the pointer near a surface edge where the angle between the two surfaces is NOT 90 degrees. PC-DMIS draws arrows to highlight the angle point. Release the mouse button to create the feature.

    - PCD-55040 - To highlight an ellipse curve, you can press and hold Shift near the curve to highlight it.

    - PCD-55041 - To create a polygon auto feature, you can press and press and hold Shift, hover the mouse pointer over one edge of the polygon, click and hold the mouse button, and then move the pointer to an adjacent edge. Once the entire polygon is highlighted, release the mouse button.

Automation

- PCD-56211 - Added the following methods to the Edit window interface for advanced users who program PC-DMIS with automation:

    - [id(29), helpstring("Selects/highlights command in the edit window")] void SelectCommand();

    - [id(30), helpstring("Copies selected text/commands to clipboard")] void CopySelectedToClipboard();

- [id(31), helpstring("Pastes text from clipboard to the edit window")] void PasteFromClipboard();

- [id(32), helpstring("Sets mirror pattern for pasting (0 - no flip; 1, flip in X; 2 in Y; 3 in Z)")] long SetPasteWithPatternMirror(long type);

- [id(33), helpstring("Pastes text from clipboard with pattern")] void PasteFromClipboardWithPattern();

These new methods are located in pcdlrn.idl.

CAD

- PCD-36698, PCD-47715 - Added the **Create Section Cut Curves** button to the **Clip Planes** tab in the **CAD and Graphic Setup** dialog box (**Edit | Graphic Display Window | Lighting, Materials**). This button enables you to create section cut curves (polylines) from the intersection of the clipping plane and the CAD. For details, see "Featured Items".

- PCD-50110 - Integrated PC-DMIS and Teamcenter, an MMS (Metrology Management System) database package that Siemens developed. For details, see "Featured Items".

- PCD-22068 - Added support for these STEP Direct CAD Translators (DCTs):

  - AP203 (Editions 1 and 2)

  - AP214 (up to Edition 3)

  - AP242 (Edition 1 pre-DIS)

- PCD-50899 - Added the **Animate speed** slider to the **Rotate Options** dialog box (**Edit | Graphic Display Window | Rotate Options**). This slider is a decimal value that specifies the relative speed of the animated rotation of the part in the Graphic Display window (**View | Graphic Display Window**) during these rotation operations:

  - When you click one of the seven graphic window "view" buttons on the **Graphic View** toolbar (**View | Toolbars | Graphic View**)

  - When you view the part in Demo mode

The new `AnimateSpeed` registry entry in the Settings Editor application sets the relative speed. The range is 0.1 (very slow rotation speed) to 10 (instantaneous rotation for view changes). For Demo Mode, the maximum value results in a very fast rotation. The default is 1 (normal rotation speed).

- PCD-51728 - Added the ability to quickly create a round slot Auto Feature by highlighting CAD elements as follows:

  1. Press and hold Shift.

  2. Hover your mouse pointer over one of the circular ends of the slot.

  3. Click and hold the mouse button.

  4. Move the pointer over one of the straight sides.

  5. When the slot is highlighted, release the mouse button to create the feature.

- PCD-53043 - Created a converter from the .CAD format to the MyVR format for the iPad app SPC Touch.

- PCD-59075 - Added R24 support to the CATIA v5 DCI.
- PCD-59076 - Added R24 support to the CATIA v5 DCT.

CNC

- PCDNC-504 - Enabled a more robust installation of PC-DMIS NC on a Mazak Integrex machine.

Comments

- PCD-45168 - Added an INPUTVALUE extension to the **Yes / No** comment type in Expression Builder for the message "Do you want to continue execution?" in the **PC-DMIS Message** dialog box. The answer that the operator selects is accessible using expressions with the ID of the comment. For example, if the comment has an ID of C1, and the operator selects **Yes** for the message, the expression "C1.INPUTVALUE" contains the value 1. If the operator selects **No**, the expression "C1.INPUTVALUE" contains the value 2. This option is useful for users who want to branch or loop on a 1 or 2 integer response.

Dimensions

- PCD-55179 - Added **To** and **From** options, and a **Supplemental Angle** check box, to the **Angle** dialog box for the 2D angle type. For details, see "Featured Items".

- PCD-45007 - For an Auto Cylinder, removed the ISO 8015 type for reporting the local size of a Feature Control Frame (FCF) dimension from the **GD&T standard** list on the **Feature Control Frame** tab in the **XactMeasure GD&T** dialog box (**Insert | Dimension**). Now, to report the local maximum and minimum size, select ISO 1101 in the **GD&T standard** list to display the **Local Size** list. From this list, select **Local: MAX & MIN**. The local size is measured where you take the hits at each level of the Auto Cylinder along its axis.

- Enhanced the Blob Auto Feature (**Insert | Feature | Auto | Blob**) as follows:

  - PCD-55268 - Added the ability to access area information for individual blobs found within the auto feature. For example:

    ```
    Assign / V3 = blb1.hit[C].AREA
    ```

  - PCD-46000 - Added the **Area** check box to the **Feature Location** dialog box (**Insert | Dimension | Location**). To print the area of a selected Blob feature, select this check box. The axis appears as AR in the report and in the Edit window in Command mode.

Dual Arm

- PCD-41092 - Improved the accuracy on dual-arm machines. For details, see "Featured Items".

- PCD-53765 - PC-DMIS now checks that the number of defined spheres is consistent with the selected Multiple Arm Calibration method.

Edit Window

- PCD-2518 - Improved the Edit window's readability in Command mode and DMIS mode by automatically indenting the text inside of supported code blocks, loops, and flow control pairs once they are inserted into the Edit window.

  As a result of this enhancement, the value for the **EWGroupIndent** registry entry in the Settings Editor application was modified to specify the number of spaces that PC-DMIS places inside of the code blocks, loops, and flow control pairs that support indenting. For example, if the value is 4, PC-DMIS places four spaces to the left of the affected Edit window items. (The default is 2.) The value applies only to Command mode and DMIS mode; Summary mode continues to use a fixed value.

Execution

- Made the following changes to the Mini Routines feature (**File | Partial Execution | Mini Routines**):

  - PCD-53477 - Enabled the feature to be used on portable machines.

  - PCD-54182 - Enabled the **With Alignment Dependencies** check box in the **Mini Routines** dialog box to be selected regardless of whether PC-DMIS was started with administrator privileges.

  - PCD-38065 - Added the **Mark Manual Alignment Features** check box to the **Mini Routines** dialog box. To mark manual alignment features for measurement, select this check box.

  - PCD-53478 - Added the **Marking Mode** list to the **Mini Routines** dialog box. Select the type of marking mode: **Parent Child** (requires clearance cube to be present in the measurement routine) or **Feature Based**. The **Feature Based** marking mode does not require clearance cube; it does require the optional Feature Based Measurement (FBM) module, and the measurement routine must be created using FBM principles.

Help / Documentation

- PCD-56960 - Documented the **Pointcloud** toolbar (**View | Toolbars | Pointcloud**) in the PC-DMIS Core and Laser documentation.

- PCD-43287 - Documented the calibration procedure for the TP200 probe changer in the PC-DMIS Core documentation.

- PCD-53111 - Added a link from the "Analog Probe Scanning Parameters" topic in the PC-DMIS Core documentation to a PDF document that contains scanning parameters for SP600, SP80, SP25, and other analog probes.

- PCD-53720 - Updated the documentation for the Adaptive Plane Circle Scan strategy to reflect improvements to the **Setup** tab, **Path Definition** tab, and **Scan Path** tab in the Probe Toolbox:

  - On the **Setup** tab, you can use the **Select Center** option to select the center of circular features and create a circular path around it.

- On the **Path Definition** tab, you can generate a path with multiple circular rings, choose to jump holes that are found, and use the entry for the **First Diameter** box instead of the spacer.

- On the **Scan Path** tab, you can insert move points to avoid obstacles in the scan path area.

Installation

- PCD-49411 - Moved the CNC.INI and ENCODER.5ES Metronics system files for the Vision application to this location: C:\ProgramData\WAI\PC-DMIS\2014.1

Laser / Cloud of Points

- PCD-50708 - Added the Extended Surface Point method to improve the approximation of the local surface used for laser surface points. For details, see "Featured Items".

- PCD-46603 - Added Quick Feature functionality to these laser auto features:

    - PCD-54426 - Laser Circle

    - PCD-55981 - Laser Surface Point

    - PCD-56081 - Laser Edge Point

    - PCD-56103 - Laser Plane

    - PCD-56104 - Laser Round Slot

    - PCD-56105 - Laser Square Slot

    - PCD-56106 - Laser Polygon

    - PCD-56107 - Laser Cylinder

    - PCD-56108 - Laser Cone

    - PCD-56109 - Laser Sphere

    For details, see "Featured Items".

- PCD-29292 - Improved the laser wrist map creation time. For details, see "Featured Items".

- PCD-52409 - Added the remaining time for warm-up completion for the HP-L-20.8 laser sensor.

Machine Interface

- PCD-51500 - Added support for the Zeiss manual machine to work with the 64-bit version of PC-DMIS.

Planner

- PCD-54906 - Added the ability to import and export a plan in .xml format (**File | Import | Inspection Plan** and **File | Export | Inspection Plan**).

Pointclouds

- Made the following changes to the **Pointcloud Operator** dialog box (**Insert | Pointcloud | Operator**) for surface and point pointcloud operators:

    - PCD-30118, PCD-49954 - Added the **Edit Color Scale** button. You can use this button to configure colormap properties for Surface Colormap and Point Colormap pointcloud operators. For more information, see "Featured Items".

    - PCD-49954 - Added the **Create annotation point** and **Show annotation points** check boxes. Annotations are a way to display the deviation for a specific location on a surface colormap with its associated color. If you select the **Show annotation points** check box, annotation points that you created are displayed.

- PCD-30106, PCD-37696 - Added the ability to filter pointcloud data and define an exclusion plane. For more information, see "Featured Items".

- PCD-30042 - Added the ability to align pointclouds by point pairs and best fit. For more information, see "Featured Items".

- PCD-30088, PCD-52934 - Added the Mesh command. For more information, see "Featured Items".

- PCD-44128 - Redesigned the **Pointcloud Operator** dialog box (**Insert | Pointcloud | Operator**) to display only the operators that apply to the ID that you select in the dialog box.

- PCD-46115 - Changed the mouse pointer arrow to a resize icon, which appears when you hover your mouse pointer over the edges of a cutting plane for a pointcloud cross section. This change enables the icon to be more visible and enables you to left-click to control the size, position, and rotation of the plane. In addition, when you hover your mouse pointer over a corner point, a rotation symbol replaces the mouse pointer arrow.

- PCD-46357 - Improved the speed and success rate of CAD/pointcloud auto alignment.

- PCD-51053 - Made the following changes to the **QuickCloud** toolbar:

    - Added the **Clean Pointcloud** button. This button immediately eliminates outlier COP points based on the default MAX DISTANCE of the points to the CAD.

    - Added colors to the icons on the **Pointcloud Surface Color Map** and **Pointcloud Point Color Map** buttons.

- PCD-51108 - Added the **Laser Data Collection Settings** dialog box (**Operation | Pointcloud | Data Collection**, or click the **Pointcloud Filtering Plane** button on the **Pointcloud** or **QuickCloud** toolbar). You can use this dialog box to define data filtering and an exclusion plane for your pointcloud data.

- PCD-51188 - Added these boxes to the **Pointcloud/CAD Alignment** dialog box (**Insert | Pointcloud | Alignment**):

    - **Maximum StdDev** - Defines the maximum standard deviation for the auto alignment execution between the points in the pointcloud and the CAD model. When the auto alignment command is executed, if the standard deviation of COP/CAD deviations is greater than the maximum value defined, you can select point pairs to get a better alignment. The default value is -1 (an infinite allowed standard deviation).

- **Maximum distance** - Defines the maximum distance of the points from the CAD to be used in best fit routines. The default value is 0. In this case, an internal max distance based on the size of the pointcloud is used.

Printing

- PCD-30516 - Added the **Copies** box to the **Report** tab in the **Output Configuration** dialog box (**File | Printing | Report Window Print Setup**). Use this option to specify the number of reports to print. The **COPIES** value was also added to the **TO_PRINTER** option for the **PRINT/REPORT** command.

- PCD-46922 - Added the **Show Report** check box to the **Report** tab in the **Output Configuration** dialog box. This option specifies whether to open the report that was sent to a .pdf or an .rtf file. If you select the check box, the report opens in the application that you have associated with the .rtf or .pdf file type after the report is generated.

Reporting

- PCD-53706 - Added the ability to add an image to a new or existing Excel report template (**File | Reporting | New | Excel Template** or **File | Reporting | Edit | Excel Template**) in the Excel Viewer (**Insert | Image**). You can also move and resize an image.

- PCD-50332 - Added the ability to display images in the Excel Viewer when an Excel file is opened (**File | Reporting | Edit | Excel Template**). An Excel file with an image can also be saved, with limitations.

- PCD-52615 - Added the **Follow dimension output** check box to the **Excel** tab (**File | Printing | Report Window Print Setup**). If you select this check box, the Excel report contains only the dimensions whose output options are set to match the option that you select from the list (STATS, REPORT, or BOTH). For example, if you choose REPORT, and the **Output to** option in the **Feature Location** dialog box for a Location dimension (**Insert | Dimension | Location**) is set to **Statistics**, the Location dimension is not included in the Excel report.

- PCD-48033 - Added the TOLF function to the Reporting expression language. This function provides additional formatting capabilities beyond the TOL function. The first four TOLF parameters are the same as for the TOL parameter. However, the TOLF function has a fifth parameter that specifies the font, size, format, and color for an out-of-tolerance condition.

- PCD-39107 - If you double-click an auto feature's feature ID label in the Graphic Display window to create a Dimension Info text box in the window and a DIMINFO command in the Edit window, and then delete the DIMINFO command, the feature ID label reappears in the Graphic Display window.

Tool Changers

- PCD-52584 - Implemented DEA tool changer anti-crash management when probes with long extensions are changed.

Toolkit

- PCD-55172 - Added the Blade COP Section toolkit module. For details, see "[Featured Items](#)".

- PCD-39006, PCD-53472 - Added these tabs to the Adaptive Plane Circle Scan strategy:

  - **Path Definition** tab - This tab provides you with additional options to define a circular scan path. For example, you can specify the number of rings, the path density, and the number of points per mm that will be generated to create the scan path.

  - **Scan Path** tab - This tab enables you to display scan points and move points, insert a move point or break point, and remove a point from the scan path.

User Interface

- PCD-45689, PCD-49481 - Added support for the PMM-G 40.20.12 machine model (from **Insert | Hardware Definition | Machine**, select **PMM-G_40-20-12**).

- PCD-42372 - Added support for the OPTIV Performance 2z 443 machine model (from **Insert | Hardware Definition | Machine**, select **OPTIV_4-4-3**).

- PCD-49634 - Replaced "part program" with "measurement routine" in the user interfaces and the documentation.

- PCD-51780 - Removed the **Virtual Keyboard** and **Touch Screen Mode** toolbars from PC-DMIS.

- PCD-52275 - Changed the constructed feature buttons on the **Constructed Features** toolbar (**View | Toolbars | Constructed Features**) and **QuickMeasure** toolbar (**View | Toolbars | Quick Measure**) so that they remain available for selection after you construct a feature. For example:

  1. Select the **Constructed Point** button. The **Construct Point** dialog box appears.

  2. To create a point feature, complete the items in the dialog box and then click **Create**.

  3. Select the **Construct Circle** button. The **Construct Circle** dialog box replaces the **Construct Point** dialog box. (You do not need to close the **Construct Point** dialog box first.)

  4. To create a circle feature, complete the items in the dialog box and then click **Create**.

- PCD-52276 - Changed the dimension buttons on the **QuickMeasure** toolbar (**View | Toolbars | QuickMeasure**) so that they remain available for selection after you dimension a feature.

- PCD-53510 - If you are running PC-DMIS in Administrator mode, "(Administrator)" appears in the application's title bar.

- PCD-55420 - Changed how Quick Features for points work. For point features, Quick Features no longer require that you enable Point Only mode; now, point features require only that you press Shift+Ctrl before the mouse click. Non-point features require only Shift.

Vision

- PCD-26988 - Added a distance-based outlier filter for the automatic hit target measuring method with a filter parameter set. For more information, see "Featured Items".

- PCD-46602 - Implemented Quick Feature functionality. For more information, see "Featured Items".

- PCD-23590 - Added these options to the **Overlay properties** area in the **Live View Setup** dialog box (**Edit | Graphic Display Window | Live View Setup**):

  - **Highlight saturated pixels** - If you select this check box, the pixels in the live image view (where the illumination intensity is above the defined threshold) are highlighted. This option makes the pixels easily visible.

  - **Flash** - If you select this check box, the highlighted saturated pixels flash.

  - **Highlight** - Use this list to select the highlight color for the saturated pixels.

  - **Threshold (%)** - Use this slider to change the illumination intensity value. Pixels above this value are considered to be saturated.

- PCD-23642 - Added the `AutoTuneDisable` registry entry to the Settings Editor application. Its settings are True and False.

  - If the registry entry is set to True, and your computer is in AutoTune execution mode, PC-DMIS automatically turns this mode off when you load a measurement routine that was created offline. In addition, PC-DMIS does not automatically place your computer into AutoTune execution mode when you save a measurement routine for an offline machine.

  - If the registry entry is set to False (the default), and your computer is in AutoTune execution mode, PC-DMIS automatically uses this mode when you load a measurement routine that was created offline.

  You can also use this registry entry when you start PC-DMIS in Operator mode.

- PCD-23661 - Added the **Transparency** button to the **Live View** tab in the Graphic Display window (**View | Graphic Display Window**). If you select this button, a slider appears underneath it. You can drag the slider to set the transparency of the overlays that display in the live view. The transparency dynamically updates as you drag the slider. The default value is 50%. 0% = fully transparent (invisible), and 100% = solid. Note that this is the only place where you can change the overlay transparency.

- PCD-46356 - Changed the default target width of the Profile 2D auto feature to 3 pixels so that you can readily identify target handles in CAD View and Live View.

Contact Hexagon Metrology

If you are participating in the *technical preview* of PC-DMIS 2014.1 Release, please post your feedback in the appropriate technical preview forum located at http://www.pcdmisforum.com/forum.php. Please <u>do not</u> contact Technical Support for technical previews.

If you are using the *commercially released version* of PC-DMIS 2014.1 Release and would like further information or technical support, please feel free to contact http://hexagonmetrology.us/contact-us or visit www.pcdmis.com. Hexagon Metrology Technical Support can also be reached by calling (1) (800) 343-7933.

Appendix A

Providing LMS Licensing Information to the Installer from the Command Line

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

- If the installer is running in silent mode (**/q**) or basic silent mode (**/qb**), and the correct information is provided, everything runs without user interaction. The command switch **/qb** displays the progress bar and handles installer errors, while the **/q** switch hides the user interface.

- If the installer is not running in silent mode, the information provided is used to populate the LMS activation form and skip the **Choose License Type** dialog box.

A description of the parameters follows, along with examples:

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

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

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

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

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

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

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

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

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

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

/qb USELMSLICENSING

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

/qb LMSLICENSESERVERS="123.12.134.42"

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

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

Appendix B

Understanding File Locations

The default file locations (path locations) for various user-specific settings and other files have changed in PC-DMIS 2010 MR2 and later in order to comply with newer operating system standards. Previously, much of this information was stored inside of the install directory of PC-DMIS.

The following shows where these files are now stored, based on each file's role:

Public Documents

Types of Files: Part programs, CAD, probe files, and other files.

- Vista/Win7/Win8: C:\Users\Public\Public Documents\WAI\PC-DMIS\<version>

  Where <version> is the PC-DMIS version.

Public Documents (Reporting Directory)

- Vista/Win7/Win8: C:\Users\Public\Public Documents\WAI\PC-DMIS\<version>\Reporting

  Where <version> is the PC-DMIS version.

Public Documents

Types of Files: CAD files

- Vista/Win7/Win8: C:\Users\Public\Public Documents\WAI\PC-DMIS\<version>\CAD

  Where <version> is the PC-DMIS version.

Public Documents (Fixturing)

Types of Files: Fixturing files

- Vista/Win7/Win8: C:\Users\Public\Public Documents\WAI\PC-DMIS\<version>\FIVEUNIQUE

  Where <version> is the PC-DMIS version.

Program Data Files [Hidden]

Types of Files: Calibration files (such as comp.dat and compens.dat), setup files (such as tool.dat, toolc.dat, and usrprobe.dat), and other files.

- Vista/Win7/Win8: C:\ProgramData\WAI\PC-DMIS\<version>

  Where <version> is the PC-DMIS version.

User Data Files

Types of Files: Toolbar and menu layout files, lighting and materials, settings, and other files.

- Vista/Win7/Win8: C:\Users\<username>\AppData\Local\WAI\PC-DMIS\<version>

    Where <username> is your window's logon user name and <version> is the PC-DMIS version.

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

NOTE: In addition, functionality was added into the PC-DMIS Settings Editor that allows you to back up, restore, or clear user-specific files and settings. Rather than manually deleting or restoring individual files on your own, we recommend that you use the tools provided in the Settings Editor instead. See the "PC-DMIS Settings Editor" documentation for additional information.

Required User Access Rights

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

File System

Windows XP

- C:\Documents and Settings\All Users\Application Data\WAI\PC-DMIS\2014.1

- C:\Documents and Settings\All Users\Documents\WAI\PC-DMIS\2014.1

- C:\Documents and Settings\User Name\Local Settings\Application Data\WAI\PC-DMIS\2014.1

- Any user-specified folder locations for storing Part Programs, Probes, Subroutines, and so on

Windows Vista/7/8

- C:\ProgramData\WAI\PC-DMIS\2014.1

- C:\Users\Public\Documents\WAI\PC-DMIS\2014.1

- C:\Users\UserName\AppData\Local\WAI\PC-DMIS\2014.1

- Any user-specified folder locations for storing Part Programs, Probes, Subroutines, and so on

Registry

All of these versions have their own registry settings, which are stored in a version-specific Key. The items shown below are for the 2014.1 Release.

X86 OS

- HKEY_LOCAL_MACHINE\SOFTWARE\WAI\PC-DMIS\2014.1 Key and all sub keys

- HKEY_CURRENT_USER\Software\WAI\PC-DMIS\2014.1 and all sub keys

- HKEY_USERS\.DEFAULT\Software\WAI\PC-DMIS\2014.1 and all sub keys

X64 OS

- HKEY_LOCAL_MACHINE\SOFTWARE\Wow6432Node\WAI\PC-DMIS\2014.1 Key and all sub keys

- HKEY_CURRENT_USER\Software\WAI\PC-DMIS\2014.1 and all sub keys

- HKEY_USERS\.DEFAULT\Software\WAI\PC-DMIS\2014.1 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 installed. For this to work, PC-DMIS needs to run with administrator privileges the first time you run it. During the installation, if you mark 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:

  o HKEY_LOCAL_MACHINE\SOFTWARE\WAI\FxtServer

  o HKEY_LOCAL_MACHINE\SOFTWARE\WAI\PC-DMIS\NCSENSORSETTINGS

  o It may be easier to just apply create/read/write privileges to the HKEY_LOCAL_MACHINE\SOFTWARE\WAI\ key and all sub keys to cover these also.

Appendix C

First-Time PC-DMIS Installation with Flexible Fixturing

To be compliant with the permission rules for PC-DMIS products, files associated with fixturing are now located in the "C:\Users\Public\Documents\WAI\PC-DMIS\FIVEUNIQUE" folder. This allows access to the files without needing administrator privileges on the PC running PC-DMIS.

To accomplish this, the following steps are required when installing PC-DMIS for the first time:

1. The first time you install PC-DMIS and FxtServerInterface, run the FxtServerInterface installation program for the first time with administrator privileges (as is required for the PC-DMIS install).

2. When running FxtServerInterface, a message states that the system will migrate all your data files to the "FIVEUNIQUE" Documents folder described above.

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

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