midmark™

Progeny® Imaging

Installation Guide, v1.12 and Higher

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1. About this Manual

Text Conventions

These typographic conventions are used in this manual.

Type of Information	Convention	Example
Menu selection	Bold font, menus in path connected by ‘>’	**Select Tools > User Management**
User interface objects and controls	Bold font	Click **Next**
Program information and information typed by the user	Fixed-width font	Change directories to `C:/program_files/ProgenyDental`
User-specific information typed by the user	Fixed-width font with italics and ‘< >’	Type `C:/program_files/<user_database>`, substituting the name of your database for `<user_database>`

2. Welcome to Progeny Imaging

This section introduces Progeny Imaging features, system components and installation configurations.

Progeny Imaging Features and Functions

Progeny Imaging acquires, displays, and stores digital dental X-rays and intraoral video images. It stores digital sensor images in DICOM format (Digital Imaging and Communications in Medicine). DICOM format assures that each image contains patient identification and acquisition information.

Progeny Imaging can be used to:

- Create login IDs for users of Progeny Imaging
- Manage patient records
- Acquire, manipulate, and communicate images
- Configure devices to work with Progeny Imaging

This manual is designed to guide the user through installing Progeny Imaging and the image acquisition devices (sensors) that work with it.

For information on using Progeny Imaging, refer to the *Progeny Imaging User Guide* (PN 00-02-1598).

System Components

Progeny Imaging works in several related contexts:

- Progeny imaging components
- Image acquisition modules
- Third-party applications such as practice management software

Progeny Imaging Components

Progeny Imaging consists of three main components: a graphical user interface, a database and application folders. The graphical user interface is used to view and manipulate images. The database, which runs on MS SQL Server 2014 Express, stores user and patient information. The application folders store system settings, device configurations, and patient images.

Progeny Imaging must be installed on each computer that will be used to view, acquire, and store images. By default, the Progeny Imaging database is installed on the computer on which the graphical user interface is installed. This is the standalone (application) configuration.

The graphical user interface can also be connected to a central database on another computer in the office network. This is the networked (application) configuration.

Image Acquisition Modules

Progeny Imaging works with Progeny VisionDX USB, VisionDX, MPSe, ClearVision, and VetPro DR digital X-ray image acquisition modules. It also works with the Progeny Vivid USB video camera.

The VisionDX USB digital X-ray image acquisition module and the Progeny Vivid USB video camera are USB-based devices. They must be installed directly to a computer's USB 2.0 port (in the standalone device configuration). They cannot be shared across a network.

The VisionDX and MPSe digital X-Ray acquisition modules are Ethernet-based devices. Two options exist for installing them:

1. Standalone (device) configuration, in which the module is installed (in DHCP mode) directly to the computer's network port. In this configuration, the module can be used only from the computer where it is connected. The computer in a standalone (device) configuration can access an office network or the internet only if it has a second network port.
2. Networked (device) configuration, in which the module is installed using the default standalone (device) configuration and then reconfigured to be in static IP mode. It can then be attached directly to a hub or switch on the office network. In this configuration, all computers are on the office network and the module can be accessed from computers in different rooms. The computers on the office network are able to have Internet access if the office network provides this access.

Bridge to Third-party Applications

PIBridge is an additional software application from Progeny Dental which enables Progeny Imaging to be used with third-party applications, such as practice management software. With PIBridge, Progeny Imaging's image acquisition and analysis capability can be added seamlessly to practice management software. After accessing a patient's records in the practice management application, use PIBridge commands to "call" Progeny Imaging. Progeny Imaging opens to acquire images and create studies. See "5. PIBridge Application" on page 18 for details.

For more information about using third-party applications with Progeny Imaging, contact Progeny Technical Support.

Installation Configurations

Two configurations--standalone and networked--are available for installing the Progeny Imaging database. A USB-enabled image acquisition module must be physically connected to the machine on which it will be used.

Standalone Configuration

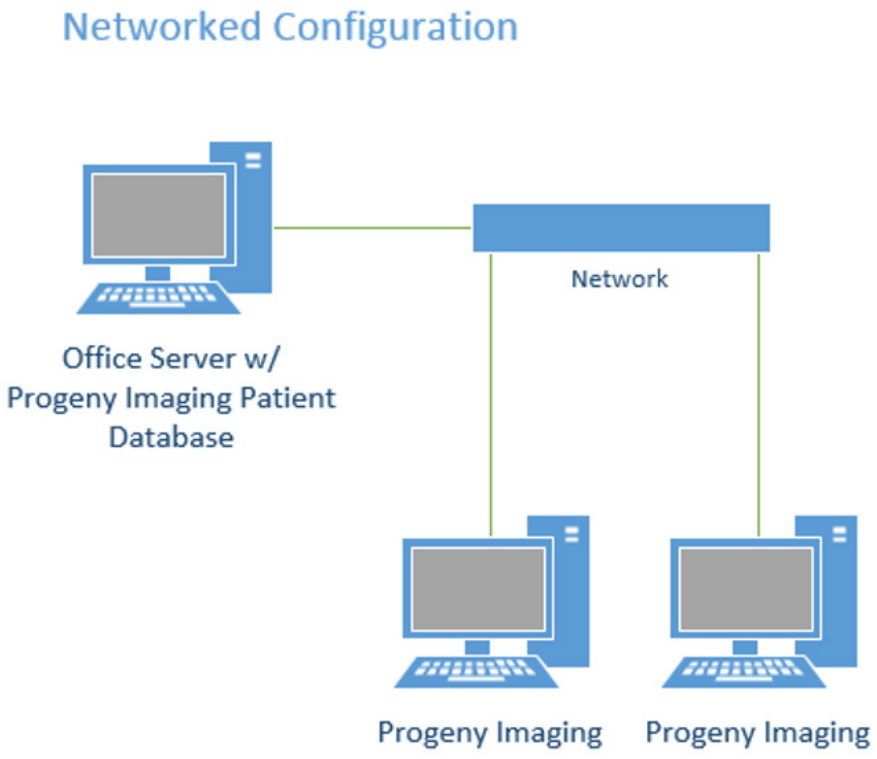
When the Progeny Imaging application, database, and application folders are located on the same computer, install Progeny Imaging in the standalone configuration.

In the standalone configuration, the computer uses the Progeny Imaging database and application folders located on the computer. The computer has an image acquisition module connected to it.

Networked Configuration

When the application, database, and application folders are located in a central location on an office server or a computer designated to act as a server, and the graphical user interfaces on other computers are pointing to a central location, Progeny Imaging is installed in networked mode. All of the computers with the application use the same centrally-located database and can view the centrally-located patient images. In the networked configuration, all computers are on the office network and can access the internet if the network provides access.

In the networked configuration shown below, Progeny Imaging is installed on each computer and on the office server. All computers use the Progeny Imaging database on the office server and the image acquisition module connected to the network hub.



Recommended System Requirements

The performance of Progeny Imaging software is affected by the amount of RAM and storage memory available to the system for acquisition, displaying, storing, and printing digital X-ray images. The recommended requirements are listed below as a guideline only.

Note that varying patient volumes and the specific demands of the practice may require that these guidelines be adjusted. The system requirements of other programs operating on the same computer or network may affect them as well.

Parameter	Description
Operating System	Microsoft Windows 8 Pro or Enterprise Editions (32 & 64 bit) Microsoft Windows 7® Ultimate or Professional (32 & 64 bit) or Microsoft Vista® Business or Ultimate (32 & 64 bit) or Microsoft Windows XP® Professional (SP3) or Intel®-based Apple® running Windows platform.
Processor	Intel® (or x86 compatible) single core 2 GHz or better (or dual core at 1.7GHz recommended)
Memory	2 GB RAM (minimum), 3 GB RAM (recommended)
Storage	80GB Hard Drive (minimum)
Video	32 bit, 1024 X 768 resolution capable (minimum)
Display	1024 X 768, 32 true bit color (recommended)
Ports	Two high-speed USB 2.0

A back-up storage device is recommended (DVD, external hard drive, etc.)

Note: Microsoft 8, Microsoft 8 RT, Microsoft Windows 7® Home Premium, Microsoft Windows Vista® Home Basic or Home Premium, and Microsoft XP® Home, and Tablet PC Editions are not recommended.

Getting Assistance

For additional assistance, contact the local Midmark dealer representative or Midmark Technical Services:

Manufactured by:
Midmark Corporation
1001 Asbury Dr.
Buffalo Grove, IL 60089

Phone: 800-MIDMARK (800-643-6275) (Press 3) (U.S. and Canada)

Phone: +1 847-415-9800 (Press 3) (International)

Fax: +1 847-415-9801

Email: imagingtechsupport@midmark.com

Hours: 8:00 a.m.-5:00 p.m. CT

EC REP

2927

CE Partner 4U
Esdoornlaan 13
3951 DB Maarn
The Netherlands

To facilitate the service call, have this information available:

- The computer's operating system and version (example: Window 8 Pro)
- The version of Progeny Imaging software. To determine the version, in Progeny Imaging select **Help > About Progeny Imaging.**
- Serial number of the digital system (on the box the sensor came in) and the sensor's serial number (attached to the sensor cable).
- Type of Progeny Imaging installation (standalone, peer-to-peer network, client-server network).

Have the Progeny Imaging software available and have access to the digital sensor.

3. Install Progeny Imaging

Installation Overview

Install Progeny Imaging on every computer that will be used to view, acquire, or store images.

1. Remove any previous version of Progeny Imaging.
2. Install the current version of Progeny Imaging .
3. Open the software and log in as the Administrator.
4. Additional step only for upgrading from Progeny Imaging 1.1.x.x: Remove Progeny Device Service.

About the Progeny Flash Drive

Progeny Imaging is installed from the Progeny flash drive. The drive also contains the help file and the database software, MS SQL Server 2014 Express Edition. If MS SQL Server is not already installed on the computer, the Progeny Software Installer will install it.

Before Installing Progeny Imaging

Log on to the Windows computer with administrator privileges.

Uninstalling Progeny Imaging

When upgrading from a previous version of Progeny Imaging, uninstall the earlier version of Progeny Imaging first.

To Remove Progeny Imaging

The steps below assume you are running Windows XP. If you are running Windows Vista/7/8, use the Programs and Features icon in the Control Panel.

1. From the Windows Start menu, select Control Panel. Then click on Add or Remove Programs.
2. In the Add or Remove Programs screen, select Progeny Imaging.
3. Click Remove.

Note: Uninstalling Progeny Imaging and the Progeny Device Suite does not remove the Progeny Imaging database or MS SQL Server 2014 Express Edition: these components will be used if you re-install Progeny Imaging.

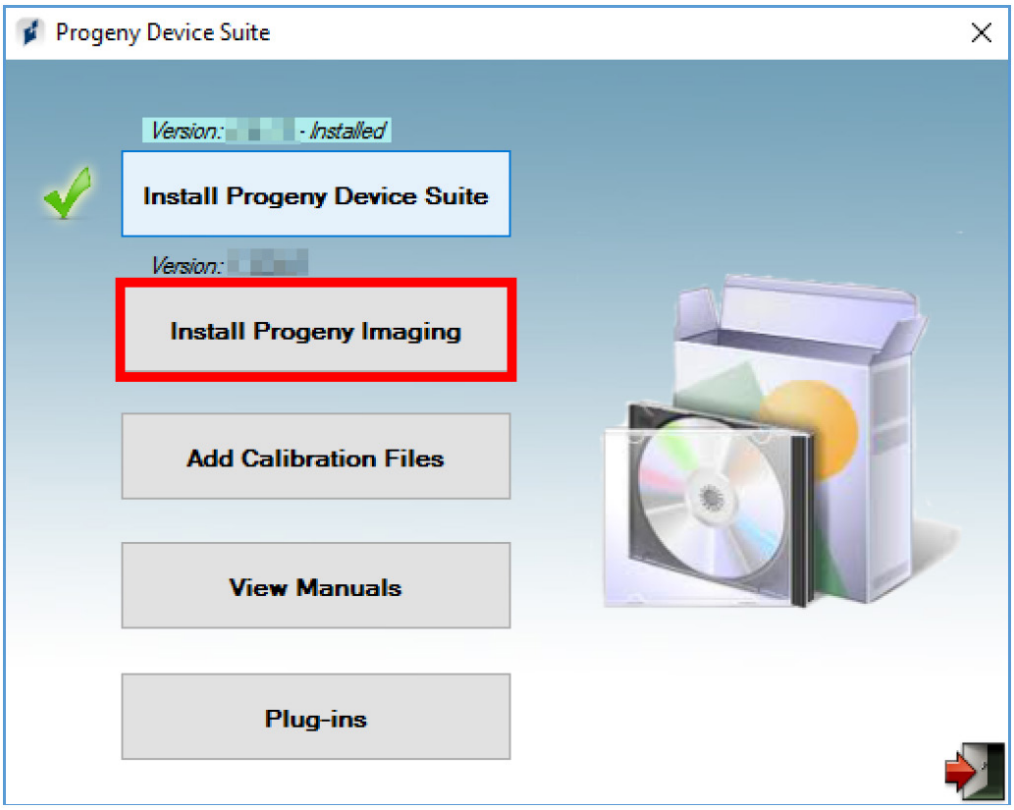
Progeny Imaging Installation

1. Insert the Progeny flash drive into one of the computer's USB ports and allow the computer to recognize it.

   Note: If the Progeny Software does not start automatically, use the Windows Start menu and select Run then type the path to the program on the Progeny Imaging Installation disc.

2. In the Progeny Imaging Software Installer, click Install Progeny Imaging.

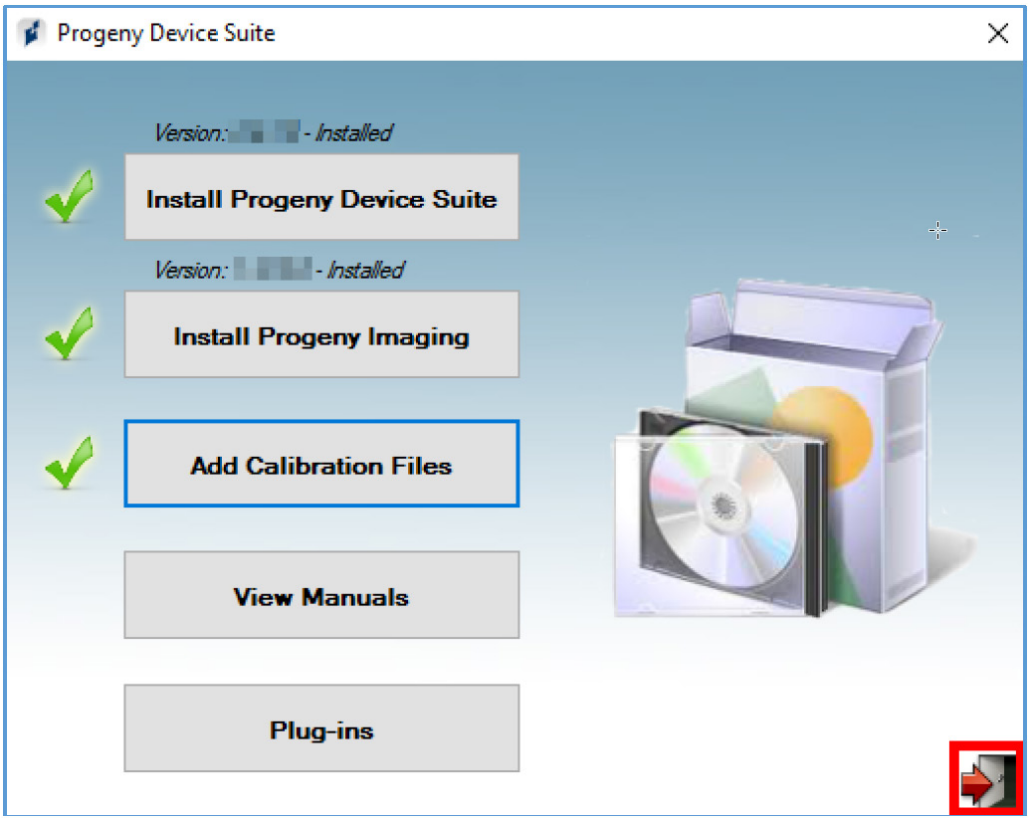
   Note: The Progeny Device Suite software must be installed prior to installing the Progeny Imaging software.



   Note: The version numbers in the image above may not reflect those displayed on screen.

3. If the computer does not have MS SQL Server 2014 Express Edition installed, a license agreement will be displayed. Click Accept.

4. In the Progeny Software Installer, click the Exit door icon in the lower right corner.



Logging in the First Time

After launching Progeny Imaging the login window will be displayed.

Progeny Imaging allows both administrator users and ordinary users. Immediately after installing Progeny Imaging, log in as Administrator. The Administrator can then use the User Manager window to create user IDs and passwords for other administrators and ordinary users.

To Log In

1. On the computer's desktop, double-click the Progeny Imaging icon or select Progeny Imaging from Windows' Start menu.

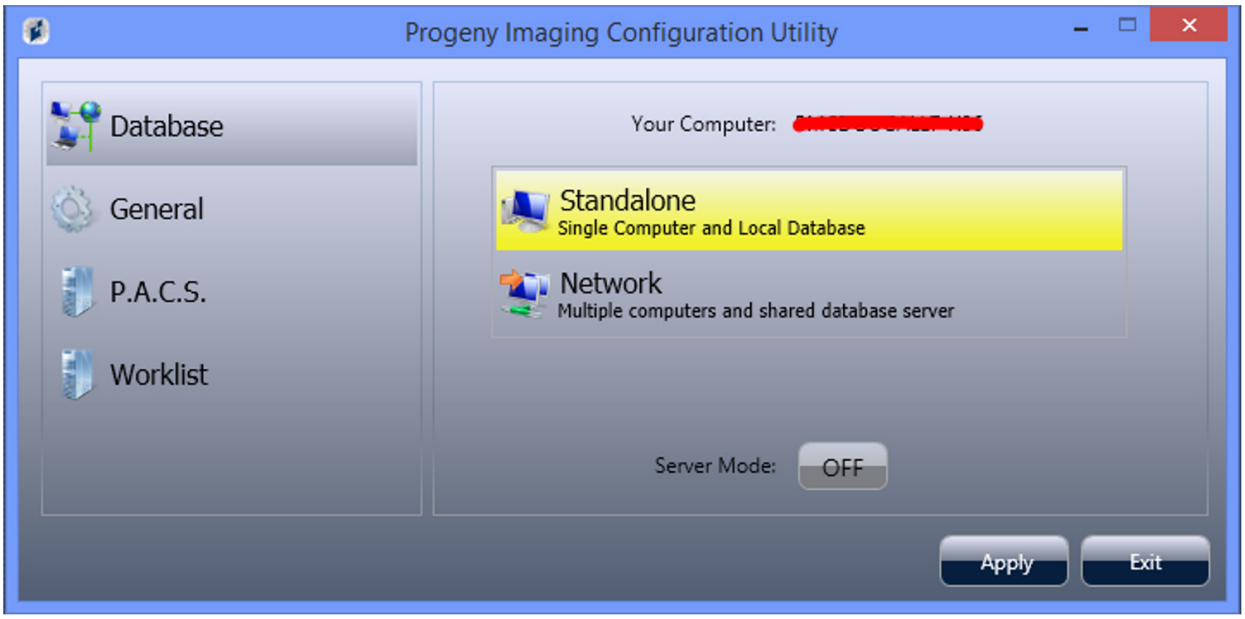
2. In the Login screen Username field, type **Administrator**.

   Note: When logging into the application in another language, use the localized operating system's version of the "Administrator" login.

3. Leave the Password field blank.
4. Click **Login**.

4. Using the Configuration Utility

Configuring Database Options



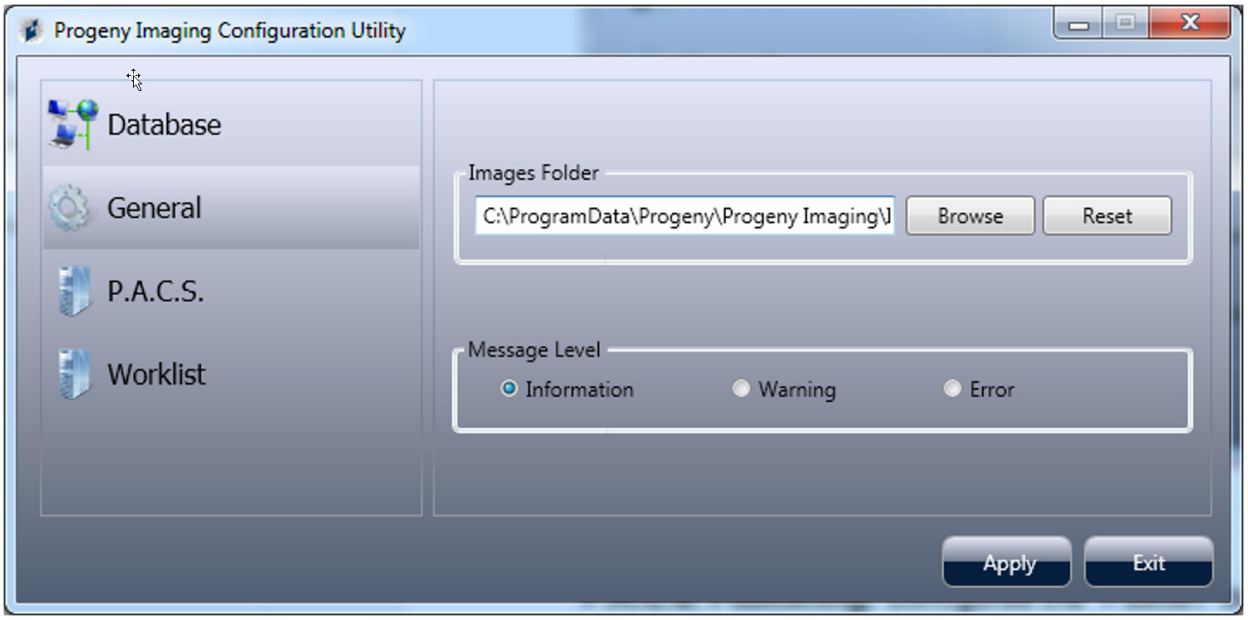
Your Computer: Displays the local computer's name

Database Type: Determines whether the machine will be storing images locally (Standalone) or will be connecting to another Progeny Imaging instance over a network (Network).

Server Mode: Determines whether the local computer will act as a Progeny Imaging server (available only in standalone mode).

Note: Progeny Imaging requires that the office network be set up as a workgroup (peer-to-peer or P2P) or Windows domain (client-server) network. In a workgroup or domain network, all users must have appropriate privileges on all clients in the network. On a domain network, a domain server is required for authentication.

Configuring General Options

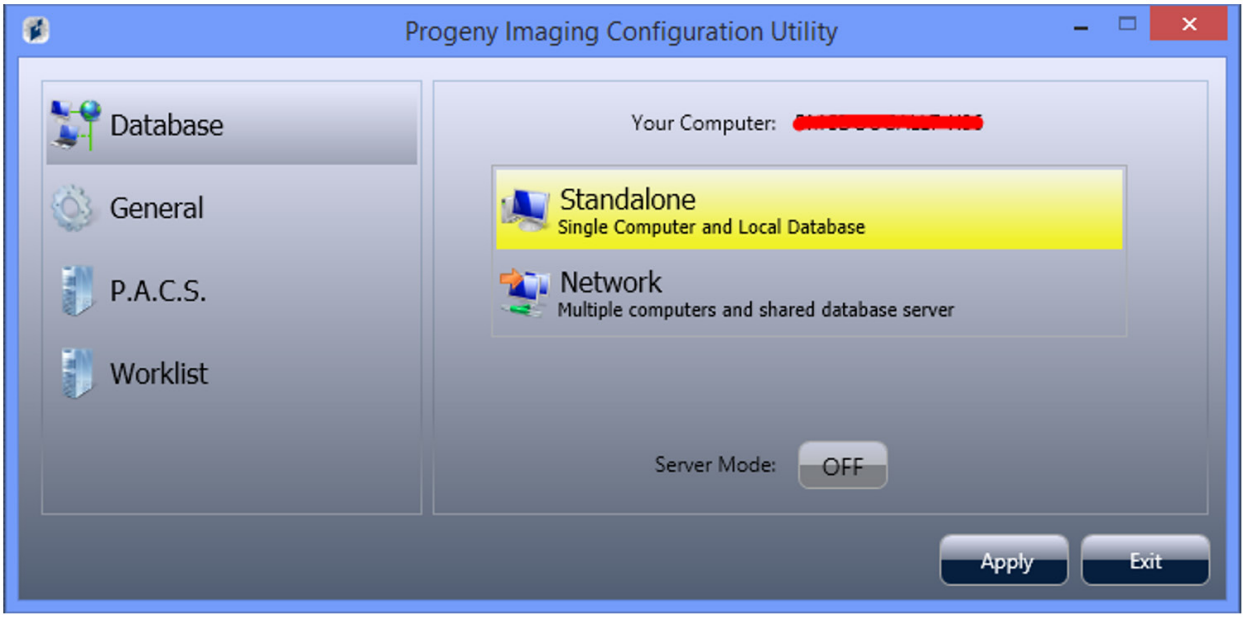


Images Folder: This is where the patient images are stored. A new location can be selected by using the Browse or Reset button to move them to their default location.

Note: The software will prevent the application's root folder from being selected

Message Level: Determines the level at which to report errors: Information applying essentially no filter to log messages and Error applying the greatest message filter, allowing only application errors to be logged.

Configuring a PACS Server



Patient images acquired in Progeny Imaging can be published (sent) to a P.A.C.S. server.

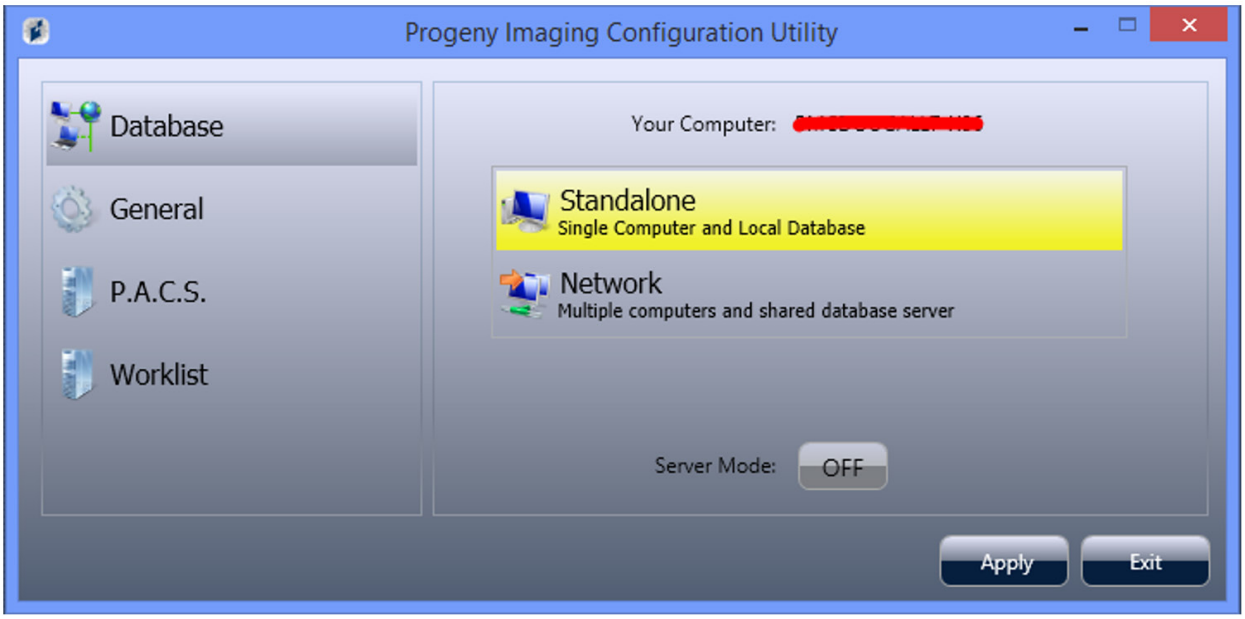
To enable this, use the Progeny Imaging Configuration Utility.

Progeny Imaging acts in accordance with the DICOM SCP standard. It can transmit images and studies to a P.A.C.S. server over a TCP/IP connection but does not support receiving images, studies, or image information. Progeny Imaging receives no return communication from the P.A.C.S. server indicating that the images were received.

Settings:

- **P.A.C.S. Publishing:** Option for “Publish” button
- **Local AETitle:** DICOM Local Application Entity Title (Calling Application)
- **AETitle:** DICOM Application Entity Title
- **IP Address/Hostname:** IP Address or Hostname of the destination P.A.C.S. server
- **Port Number:** Destination port on the PACS server

Configuring a Modality Worklist Server



Settings

- **Local AETitle:** DICOM Local Application Entity Title (Calling Application)
- **AETitle:** DICOM Application Entity Title
- **IP Address/Hostname:** IP Address or Hostname of the destination Worklist server
- **Port Number**: Destination port on the Worklist server

Applying Changes

To implement the change to the database, click the Apply button. If there is any issue with the configuration a red X will be displayed in the background. If the configuration is successful, a checkmark will be displayed. Close the Configuration Utility and launch Progeny Imaging.

Command Line Arguments

Database

OPTION_NETWORKTYPE	• **Single :** (Default) Your computer will connect to the local database. • **NetworkClient :** Your computer will connect to a remote database.
OPTION_SERVERNAME	• In network type “Single” this value defaults to your computer’s name. • If network type “NetworkClient” it defines the server name that the computer will connect to.

General

OPTION_ACCESSION	• **True:** Show accession number dialog when you perform a template acquisition or save a study • **False:** (Default) Do not show dialog
OPTION_ PUBLISHINDIVIDUAL	• **True:** (Default) Allow the publishing of individual images into a P.A.C.S. server. • **False:** Only allow full study publishing
OPTION_HUMAN_VET	• **True:** (Default) Human Mode • **False:** Veterinary Mode

PACS Settings

PACS_ALLOWPUBLISH	• **True:** (Default) Allow P.A.C.S. publishing including studies and individual images. • **False:** Do not allow P.A.C.S. publishing
PACS_IPHOSTNAME	Defines the IP address or hostname of the P.A.C.S server. (*ex. 192.168.1.5*)
PACS_AETITLE	Defines the AETitle (Application Entity Title) for the destination P.A.C.S. server.
PACS_LOCALAETITLE	Defines the local AETitle (Application Entity Title) for the destination P.A.C.S. server.
PACS_PORTNUMBER	Defines the port number of the destination P.A.C.S. server.

MWL Settings

MWL_IPHOSTNAME	Defines the IP address or hostname of the Worklist server. (*ex. 192.168.1.5*)
MWL _AETITLE	Defines the AETitle (Application Entity Title) for the destination Worklist. server.
MWL _LOCALAETITLE	Defines the local AETitle (Application Entity Title) for the destination Worklist. server.
MWL _PORTNUMBER	Defines the port number of the destination Worklist. server.
MWL TIMEOUT	Defines connection time out in seconds with Worklist server.

Examples

1. Set up a remote connection
   ConfigUtility.exe OPTION_NETWORKTYPE=NetworkClient OPTION_ SERVERNAME=MYSERVER

   Sets up a remote connection to a database where the computer name is MYSERVER
2. Choose general options
   ConfigUtility.exe OPTION_ACCESSION=true OPTION_PUBLISHINDIVIDUAL=false

   Allow the accession number dialog to be shown and do not allow publishing individual images.
3. Allow and set up P.A.C.S. Publishing
   ConfigUtility.exe PACS_ALLOWPUBLISH=true PACS_IPHOSTNAME=192.168.1.5 PACS_AETITLE=PROGENYIMAGING PACS_LOCALAETITLE=PROGENY1 PACS_ PORTNUMBER=2001

   Configure a P.A.C.S. server at 192.168.1.5 with port 2001 and setup appropriate AETitles.

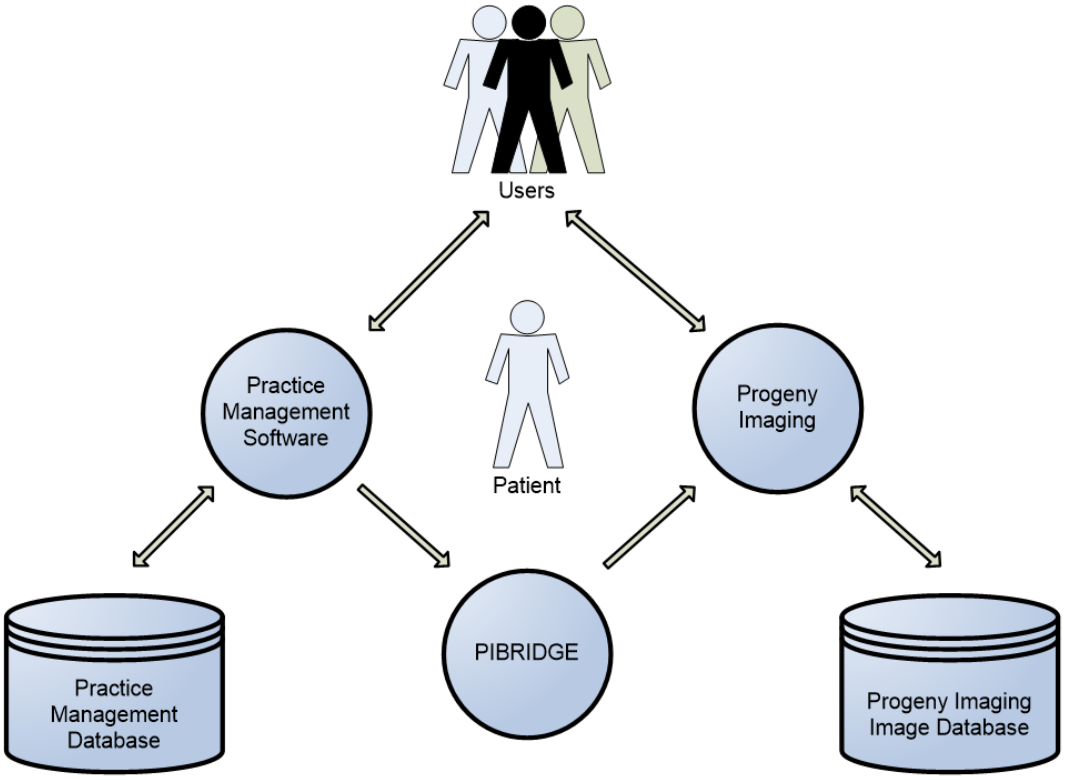
5. PIBridge Application

PIBridge Specification

This section describes the PIBridge.exe interface. Midmark has built PIBridge and Progeny Imaging as an open system that will be widely used by third party software developers, integrators, and dental imaging device manufacturers.

PIBridge Model

The cooperation of the Practice Management software and the Progeny Imaging software is illustrated in the following diagram.



In this model, Progeny Imaging handles all the image acquisition and analysis. All the operations related to patient/practice data (including patient selection) and interactions are handled by third-party practice management software.

The PIBridge command line interface integrates Progeny Imaging with any practice management software.

The practice management software starts Progeny Imaging and either minimizes or hides it at the start of a session. To acquire or access patient images, use PIBridge to show Progeny Imaging then enter the patient ID to open the patient. Progeny Imaging's interface will then display all the patient images.

PIBridge System Details

PIBridge for Progeny Imaging is supported on Windows 7, Windows 8, and Windows 10 platforms.

PIBridge has been available starting with Progeny Imaging 1.0.1.4.

PIBridge and Progeny Imaging are compatible with Unicode.

The user interface of the Progeny Imaging software is restricted when used via thePIBridge system. Redundant or conflict functionality with the patient management system is disabled.

Putting Progeny Imaging in Bridge Mode

`cmd=start`	Start Progeny Imaging with login=false, pibridge=true

The PIBridge Commands

`cmd=start`	Start Progeny Imaging
`cmd=exit`	Exit Progeny Imaging
`cmd=hide`	Hide Progeny Imaging
`cmd=show`	Show Progeny Imaging
`cmd=locate`	Locate Progeny Imaging
`cmd=maximize`	Maximize Progeny Imaging
`cmd=minimize`	Minimize Progeny Imaging
`cmd=restore`	Restore Progeny Imaging
`cmd=normal`	Restore Progeny Imaging
`cmd=addupdate`	Add or update a patient
`cmd=close`	Close a patient
`cmd=delete`	Delete a patient
`cmd=open`	Open a patient
`cmd=help`	Displays this help widow
`cmd=getimagepath`	Returns directory path of a patient containing images and studies

Note: No command line arguments display the command help widow.

The PIBridge Command

Required parameters with the “addupdate” and “open” commands

`id=a0016`	Patient Management System ID
`first=Victoria`	Patient first name
`last=Smith`	Patient last name

Optional but recommended parameters with the “addupdate” and “open” commands

`dob=12/25/1977`	Patient date of birth 12/25/1977
`ssn=123-45-6789`	Patient Social Security number 123-45-6789

Optional parameters with the “addupdate” and “open” commands

`openimage=recent`	Open most recent image
`openimage=Image001`	Open image with image ID Image001
`openimage=today`	Open all images taken today
`openimage=01/25/2016`	Open all images taken on 01/25/2016
`openstudy=recent`	Open most recent study
`openstudy=study01`	Open study with study id study01

Note: These commands apply to Progeny Imaging version 1.12 or higher.

Valid parameters with the “locate” command

`x=0`	Horizontal position
`y=0`	Vertical position

Use Case Examples

To start the Progeny Imaging software at the beginning of the session

```
pibridge cmd=start
```

Requesting directory path containing patient's images or studies

```
pibridge cmd=getimagepath id=a0016
```

When the user requests to see the radiographs of a patient, use PIBridge to pass your Patient ID to Progeny Imaging as follows

```
pibridge cmd=open id=a0016 first=Victoria last=Smith
pibridge cmd=open id=a0016
```

When the user requests to add a new patient, use PIBridge to pass your Patient ID to Progeny Imaging using the "addupdate" command as follows

```
pibridge cmd=addupdate id=a0400 first=John last=Lewis
pibridge cmd=addupdate id=a0400 first=John last=Lewis dob=12/25/1977
pibridge cmd=addupdate id=a0400 first=John last=Lewis dob=1977/12/25
ssn=123-45-6789
```

Note: These commands will display Progeny Imaging but will only add or update a patient's information. They will not result in opening the patient in Progeny Imaging.

Open most recent image of a patient

```
pibridge cmd=open id=a0400 first=John last=Lewis openimage=recent
```

Open all images of a patient taken today

```
pibridge cmd=open id=a0400 first=John last=Lewis openimage=today
```

Open a patient's image using image ID

```
pibridge cmd=open id=a0400 first=John last=Lewis openimage=d5addbfd-
2557-4ee1-b2d6-5e872bc11d10
```

Open images taken on a specific day of a patient

```
pibridge cmd=open id=a0400 first=John last=Lewis openimage=2019/04/25
```

Open most recently dated study of a patient

```
pibridge cmd=open id=a0400 first=John last=Lewis openstudy=recent
```

Open a study by studyID

```
pibridge cmd=open id=a0400 first=John last=Lewis openstudy=study01
```

Change Progeny Imaging's display location

```
pibridge cmd=locate x=100 y=100
```

Change Progeny Imaging's visibility

```
pibridge cmd=hide
pibridge cmd=show
```

Change the location of the Progeny Imaging application window

```
pibridge cmd=locate, x=0, y=0
```

Exit Progeny Imaging by calling

```
pibridge cmd=exit
```

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imagingtechsupport@midmark.com