MEDICAL STANDARD

PACSPLUS
Getting to Know
Advanced PACS & Image Management

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Medical Standard Co.,Ltd

Work with us and prepare to be rewarded.
To start cruising with more stable,
efficient and affordable PACS solution.

ISO 9001   UKAS   ISO 13485   CE 0120   FDA

MEDICAL STANDARD

MEDICAL STANDARD

Medical Standard is a leader in innovative design, world-class manufacturing, and global marketing of quality products and services for PACS and healthcare solutions.
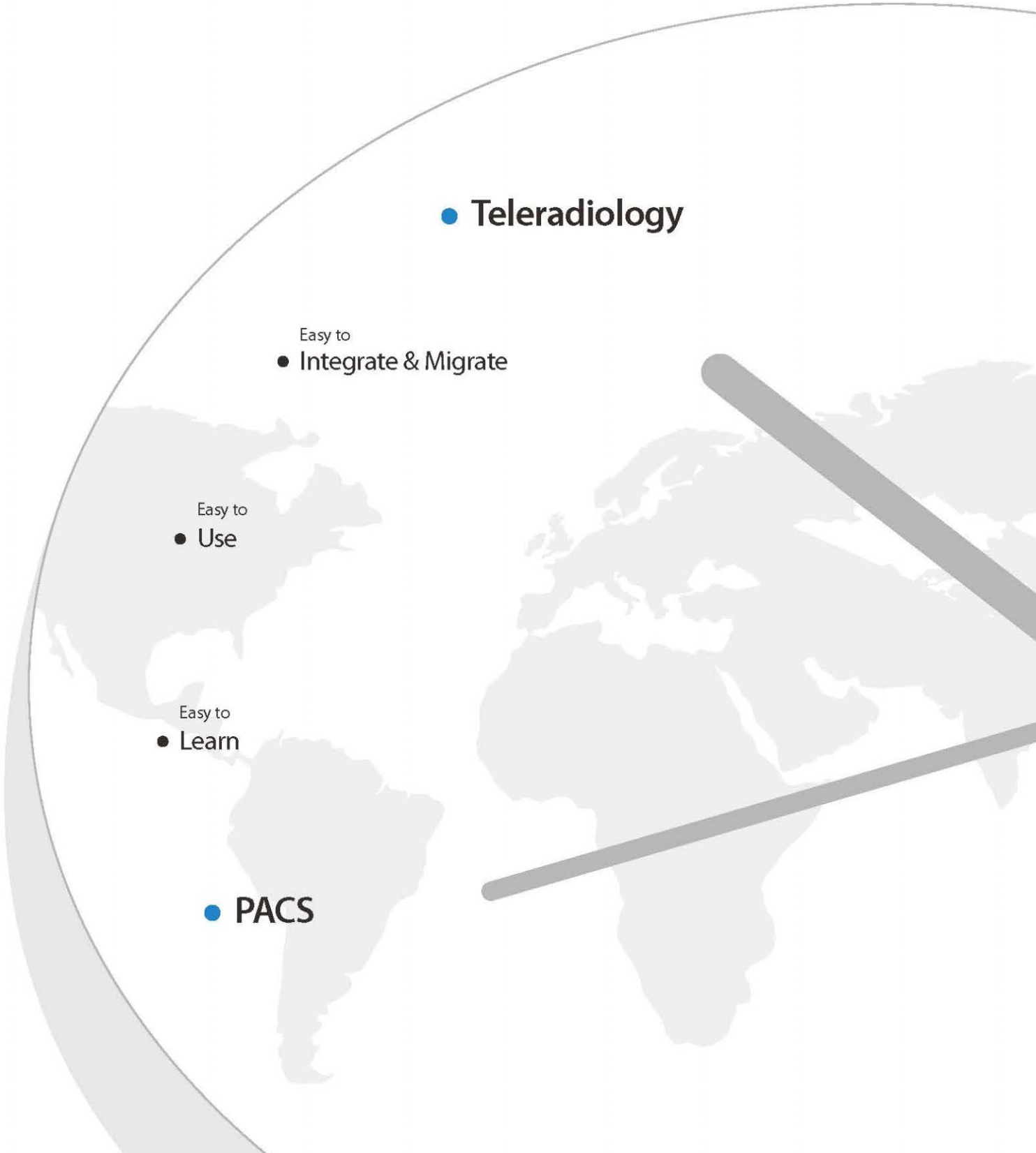
MEDICAL STANDARD

Beyond Space & Time

contents

Beyond Space & Time

BEST PRODUCT
ON YOUR BUSINESS

● **Teleradiology**

Easy to
● Integrate & Migrate

Easy to
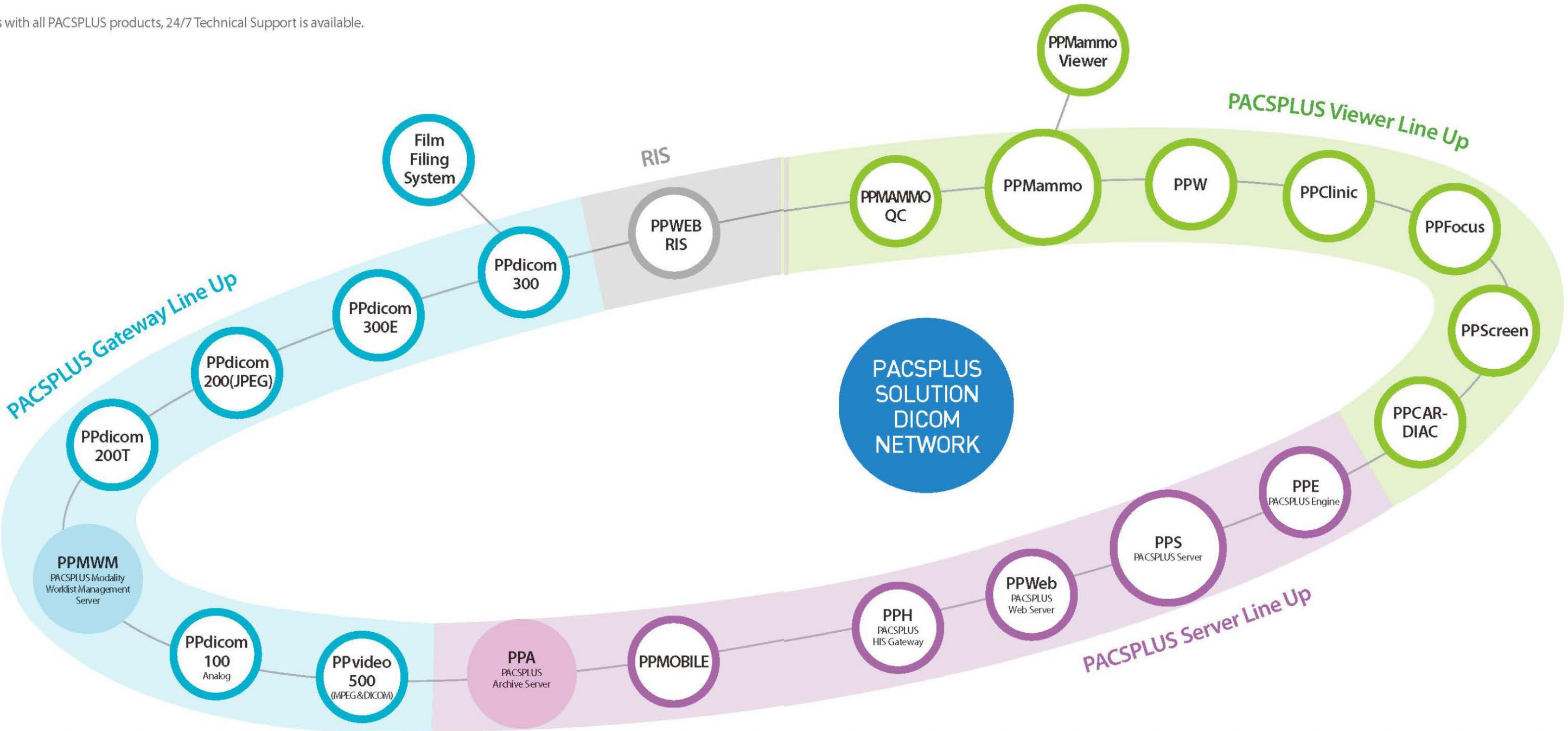● Use

Easy to
● Learn

● **PACS**

Introduction

Medical Standard's next-generation medical imaging and information management system, PACSPLUS allows the archiving and distribution of vast amounts of image information from all modalities, managing it all with a single system. With the first comprehensive PACS (Picture Archiving and Communication System) with next-generation Web technology, PACSPLUS has revolutionized the management of radiology imaging services, supporting image diagnosis with high-quality images, numerous image processing features and easy operation, affording exciting new possibilities in this rapidly evolving medical field.

We, Medical Standard provide suite of reliable PACS and Teleradiology components that are truly affordable. Each of the components can be implemented in stages, allowing healthcare providers to ease the transition to a digital image environment over a desired period of time.

As with all PACSPLUS products, 24/7 Technical Support is available.

Whole Product line

MEDICAL STANDARD
PACS BUSINESS

PACSPLUS Gateway Line Up

PACSPLUS Viewer Line Up

PACSPLUS Server Line Up

RIS

PACSPLUS SOLUTION DICOM NETWORK

- Film Filing System
- PPdicom 300
- PPdicom 300E
- PPdicom 200(JPEG)
- PPdicom 200T
- PPMWM — PACSPLUS Modality Worklist Management Server
- PPdicom 100 Analog
- PPvideo 500 (MJPEG & DICOM)
- PPA — PACSPLUS Archive Server
- PPMOBILE
- PPH — PACSPLUS HIS Gateway
- PPWeb — PACSPLUS Web Server
- PPS — PACSPLUS Server
- PPE — PACSPLUS Engine
- PPWEB RIS
- PPMAMMO QC
- PPMammo
- PPMammo Viewer
- PPW
- PPClinic
- PPFocus
- PPScreen
- PPCARDIAC

PPW

PPW (PACSPLUS Viewer)

PPW is the multi-modality viewing software and PPW provides viewing and manipulation of radiological data including images, reports, patient status and clinical information.

An easy to use DICOM Viewer that is used in thousands of hospitals, imaging centers and clinics worldwide. PACSPLUS Workstation incorporates many features required for day-to-day work. Window/level presets, synchronized stacking, reference lines, cine function and integrated CD & DVD burning, as well as advanced capabilities whole spine stitching. PACSPLUS also includes Hanging Protocol builder with relevant priors and Key Images.

Features

» Various image display functions
» Thumb-nail display mode
» Display scout-line of CT, MR and PET, etc
» Hanging protocol of image display (Image layout, series layout)
» Comparison of current and historical previous images
» Cobb angle of Scoliosis (LT, RT)
» CD/DVD burning (Embedded Auto-run Viewer)
» Non-Linear Look-Up-Table
» Long-bone stitching

PACSPLUS Publisher (PPP)
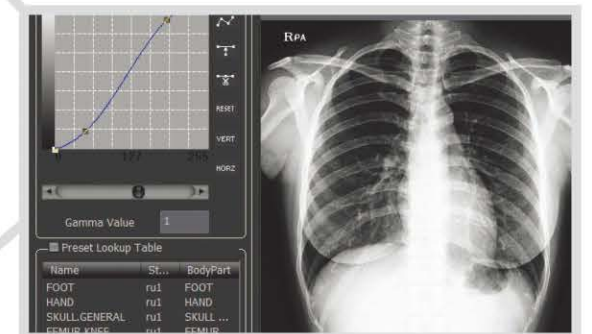
Scout View

Non-Linear Look Up Table (LUT)
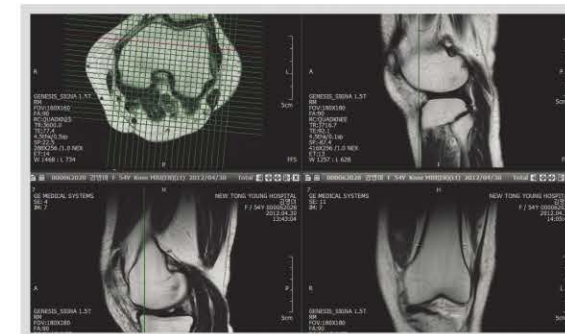
**Cobb angle of Scoliosis (LT, RT)**

# PPCLINIC

PPCLINIC (PACSPLUS Clinic Viewer)

PPClinic is a simple viewing software responsible for displaying PACS image data in non-radiology department. It was developed not only for radiologist who doesn't want to use diagnostic feature and are looking for easy and simple viewer for clinic setting. PPClinic is a well-compatible PACS viewer that match or surpass the equivalent other viewing systems in features and performance, at a far more attractive price. By providing on intuitive & easy to use solution, hospitals & clinics are able to train their's staffs quickly yet thoroughly, which improves efficiency, job satisfaction and patient care.
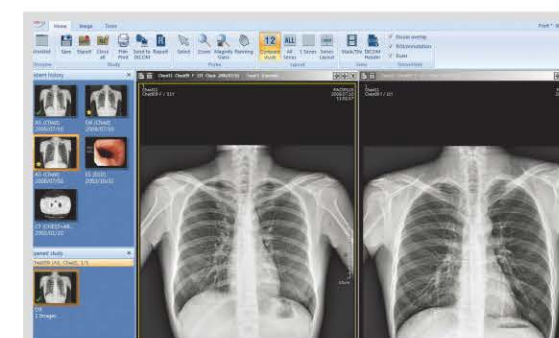
Features

» Window width/ level adjustment
» Window width/ level preset
» Zoom in/out
» All the measurements (length, angle)
» Screen adjustment (spin and mirroring)
» Display exam history
» Add comment easily
» Easy to integrate with HIS, RIS, EMR
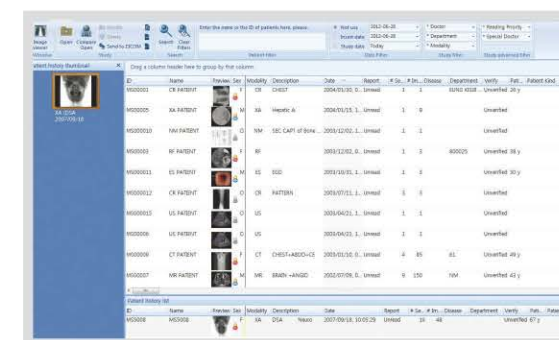
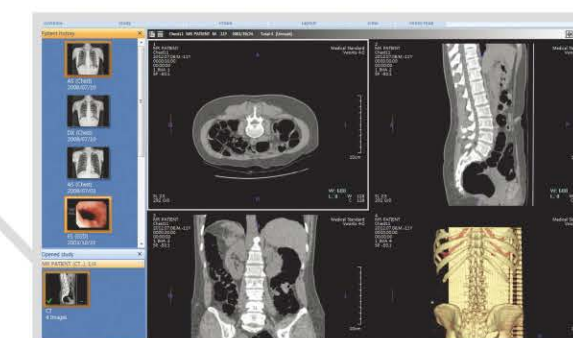**PPCLINIC Worklist**
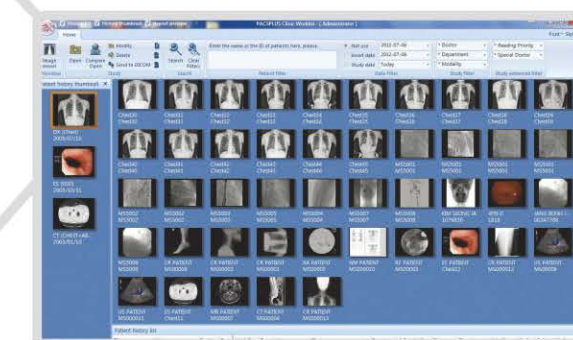
Thumb-nail mode

Comparison mode

Chest CT-View

PPMAMMO QC & Viewer

PPMAMMO QC & Viewer

PACSPLUS MAMMO QC is a quality control station automatically generates symmetrical 2 on 1 stitched images. Without complicated hanging protocol of other MAMMO viewers, PPMAMMO QC dramatically increase the speed of image display and storage capacity of typically high-volume of breast images as well as enhance ease of use. PPMAMMO makes it possible to work interactively and intelligently through information sharing and offer fast access to patient images.
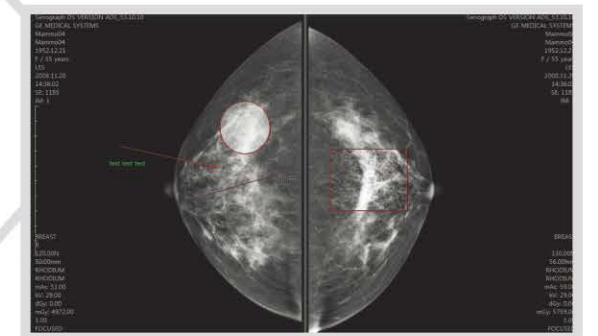
Features

» Auto trimming process of image increases storage capacity
» Auto stitching of two images with aligning height of both nipples
» Reduce volume of the image without image loss
» W/L, Zoom in/out, magnifying glass, etc
» Import JPG, BMP, TIFF, etc to DICOM
» Publisher provides patient CD/DVD
  - DICOM Print
  - Support DICOM storage SCP/SCU
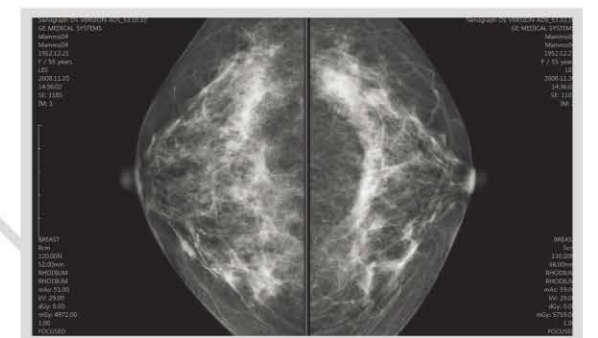

Trimming unnecessary space

Matching and Stitching R/L

Report

**Zooming**

PPFOCUS

PPFOCUS (PACSPLUS Focus Viewer)

Ophthalmology PACS digitizes the ophthalmology practice. Now with the introduction of PACS technology into the ophthalmology practice, the retinal and fundus images can be digitized providing superior images that can be enhanced and manipulated for optimal viewing.

Workstation with all the necessary functions for Ophthalmology

Features

» Window width and level adjustment
» Zoom in and Zoom out capabilities
» Various measuring functions (length, angle and etc.)
» Rotation/Reversal of images
» Diagnostic opinions on images
» Convenient thumbnails for inquiring images
» Various image layout
» Series layouts on images
» Indicate previous exam lists
» Easy compare before/after images
» Stereo View (Display three dimensional image using 3D spectacles)
» Worklist
» Panorama View
» RGB Split
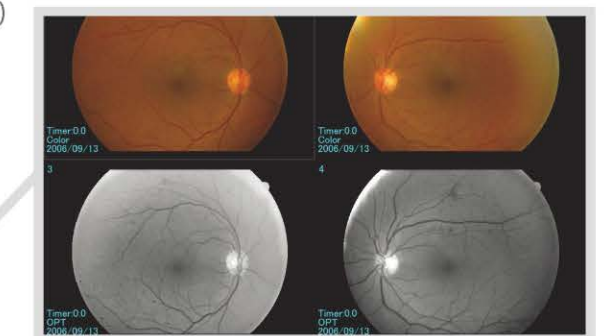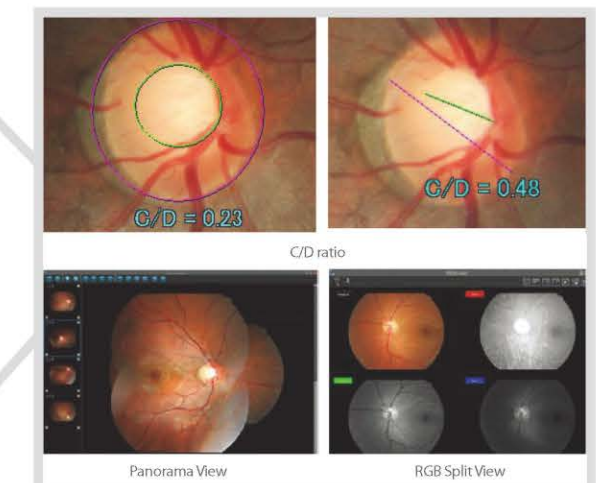» C/D Ratio (Ratio of disc and cup of optic nerve's ending)
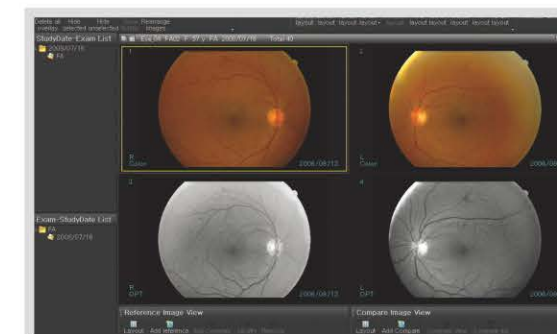
Stereo View
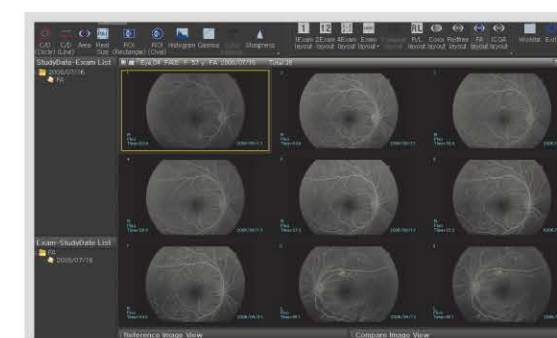
Full Image Viewer

RGB Split and Stereo View

C/D ratio I Panorama View

C/D ratio

Panorama View

RGB Split View

PPSCREEN

PPSCREEN (PACSPLUS Screen Viewer)

PACSPLUS SCREEN is a software for multi diagnosis. Image search, display, save, report can be done in PPSCREEN as well as database management function. It is very efficient to interface with HIS to manage patient data exam and image. It is a DICOM compatible and easy to interface with other PACS and modality.

Features

» Multi exam display
» Multi exam reading
» Code reading
» R/L sync (Zoom, Panning, Magnifying glass)
» Comparison mode with previous exam and various layout
» Various image processing and editing
» DICOM image display and Non-DICOM image (JPEG, TIFF, BMP) to DICOM format file
» DICOM Storage, Query & Retrieve, DICOM DIR
» Backup to CD/DVD
» Interface with other DICOM Viewer
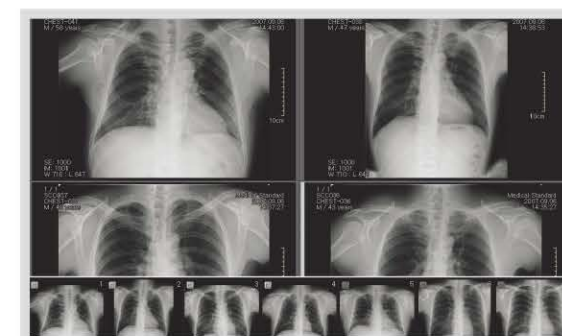
Multi exam display
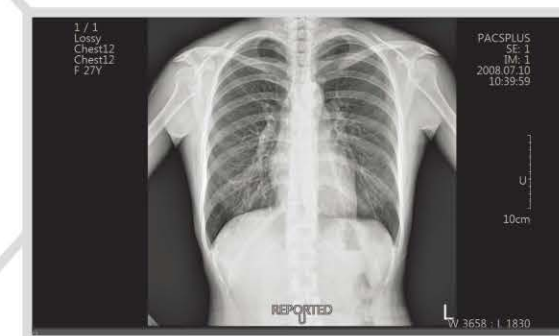
PPSCREEN Viewer

Display layout
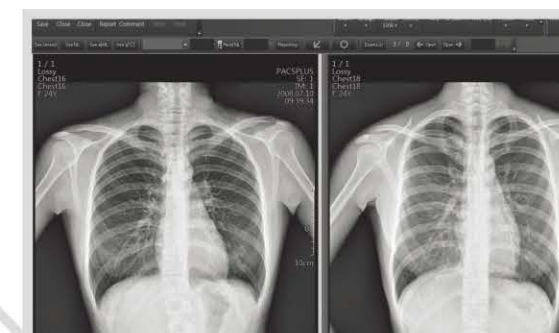
Comparison mode

PPCARDIAC

PPCARDIAC (PACSPLUS Cardiac Viewer)

PPCARDIAC PACS offers specific features for echo, ECG and cardiac cath. The objective is to help make the process smoother and the patient healthier. PPCardiac delivers clinical data and image management at the point of care.

Features

» Adjust the Window Width / Level
» Window Width / Level Preset
» Panning and Zooming
» Cine mode
» Various measurement features (length, angle, cardiothoracic ratio)
» Image rotation (left/right and up / down)
» Integration with (HIS / RIS / EMR)
» Cardiothoracic ratio (CTR)
» Movie mode cardiovascular
» Auto Show Video Bi-plane
» Auto Show Video DSA
» Insert text of the arrow to the video image
» DICOM Storage
» DICOM Query / Retrieve
» DICOM Print
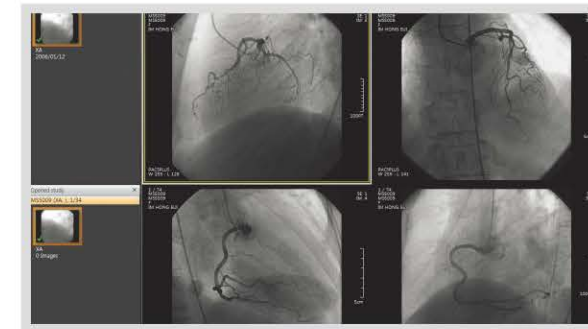
PPCARDIAC Viewer
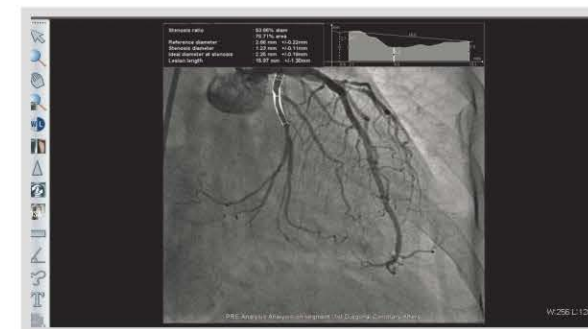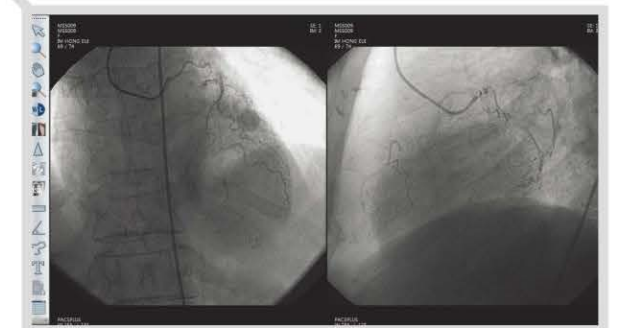
PPCARDIAC Viewer

PPCARDIAC Viewer

PPDICOM SERIES

PPDICOM(PACSPLUS DICOM Gateway)

PPDICOM is DICOM converting software for the gateway enables non-DICOM images such as JPEG, BMP, etc to be acquired, saved, searched and transmitted in the DICOM format. The PPDICOM is completely DICOM 3.0 compatible. It features diverse image configuration and a user-friendly local database management for any kind of medical departments.

Features

» DICOM send & receive
» Convert JPG, BMP, PNG and AVI files to DICOM
» DICOM & Windows print
» CD/DVD/USB burning
» Foot-switches
» Video capture method (CT, MR, US, ES etc)
» SDK-control digital camera (Ophthalmic, Microscope)
» JPEG to DICOM conversion (BMD, EKG, etc)

	PPdicom 300	PPdicom 300E	PPdicom 200	PPdicom 100	PPdicom 100C
Key Role	For ophthalmology DICOM Converter	Fundus camera DICOM Converter	JPG to DICOM Converter	Image grabbing DICOM Converter	Image grabbing DICOM Converter
Modality	Fundus/retinal camera	Fundus/Retinal Camera, Slit lamp Timer option(+)	EKG, BMD, scanner ES, US, dental JPEG imager	ES/US CT/MR	CT/MR
Local DB	X	X	X	O	O
Support MWM	O	O	O	O	O
Input patient info	O	O	O	O	O
Barcode	O	O	O	O	O
Paper Print	O	O	O	O	O
Cutting(shuttering)	O	X	O	X	X
Viewer	O	O	O	O	O
Image Compression	X	O	X	X	X
Foot switch	X	X	X	O	O

PPMWM

PPMWM (PACSPLUS Modality Worklist Management)

PPMWM stands for PACSPLUS Modality Worklist Management that utilizes exam order information from HIS, RIS, EMR and to communicate with modalities. PPMWM eliminates typo error or incorrect data made by human at modality which can cause database error.

Features

» Eliminate human input error to make it more efficient.
» Communicates with HIS to load exam orders.
» When EMR is not available, PPOrder can be used to create exam order.
» 2D barcode label print support
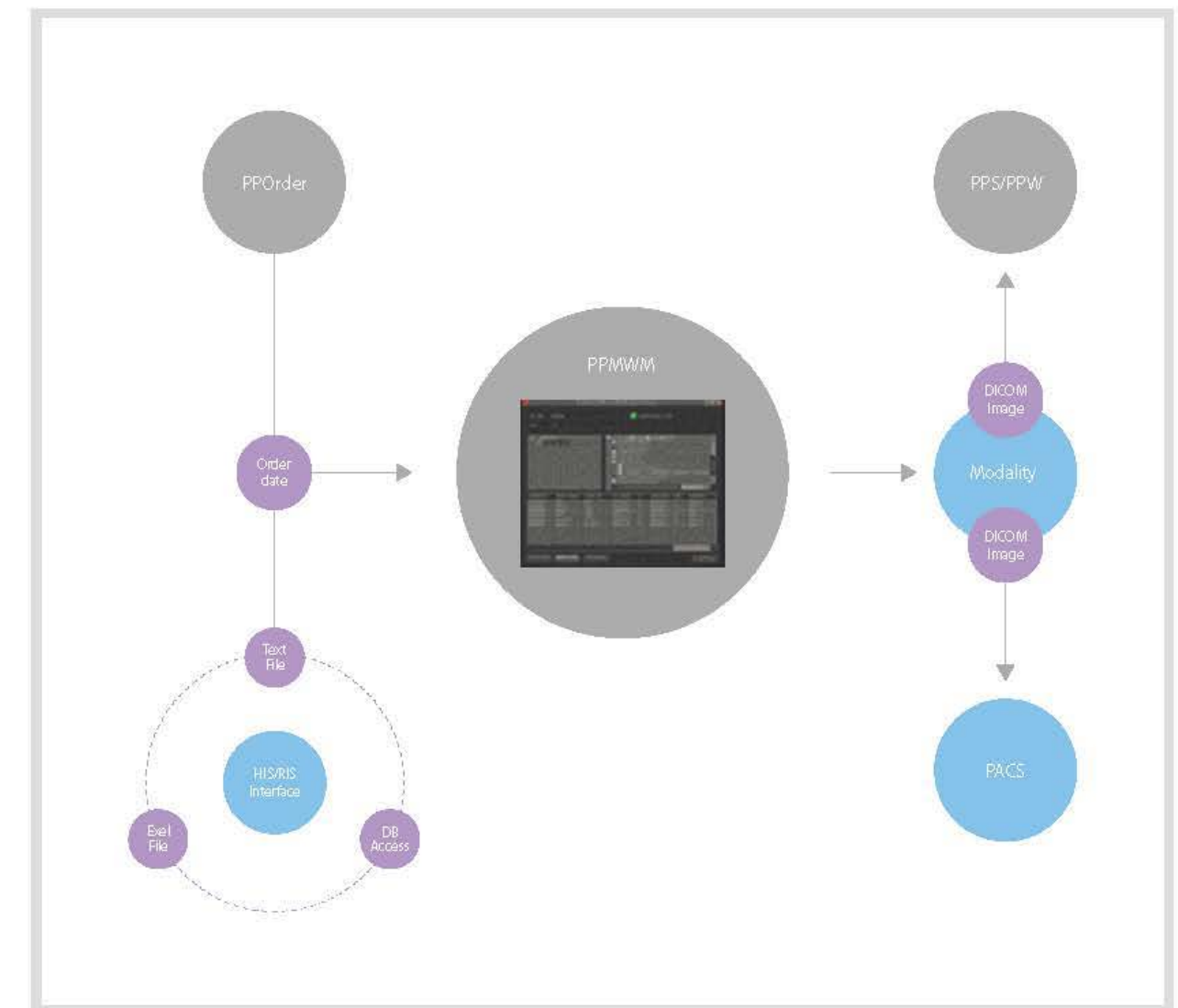
PPMWM Configuration

PPS

PPS (PACSPLUS Server)

PACSPLUS Server provides the most complete solution for all images (CR, MR, CT, US, ES, etc) within a hospital. This highly modulated solution allow you to create customized solution thats right you. PPS is a well-compatible PACS solution that matches or surpasses other systems in features and performance, at a far more attractive price.

Features

» Manages all DICOM medical images combines all medical images and manages within the database.
» Stable system with offering, clustering and system backup.
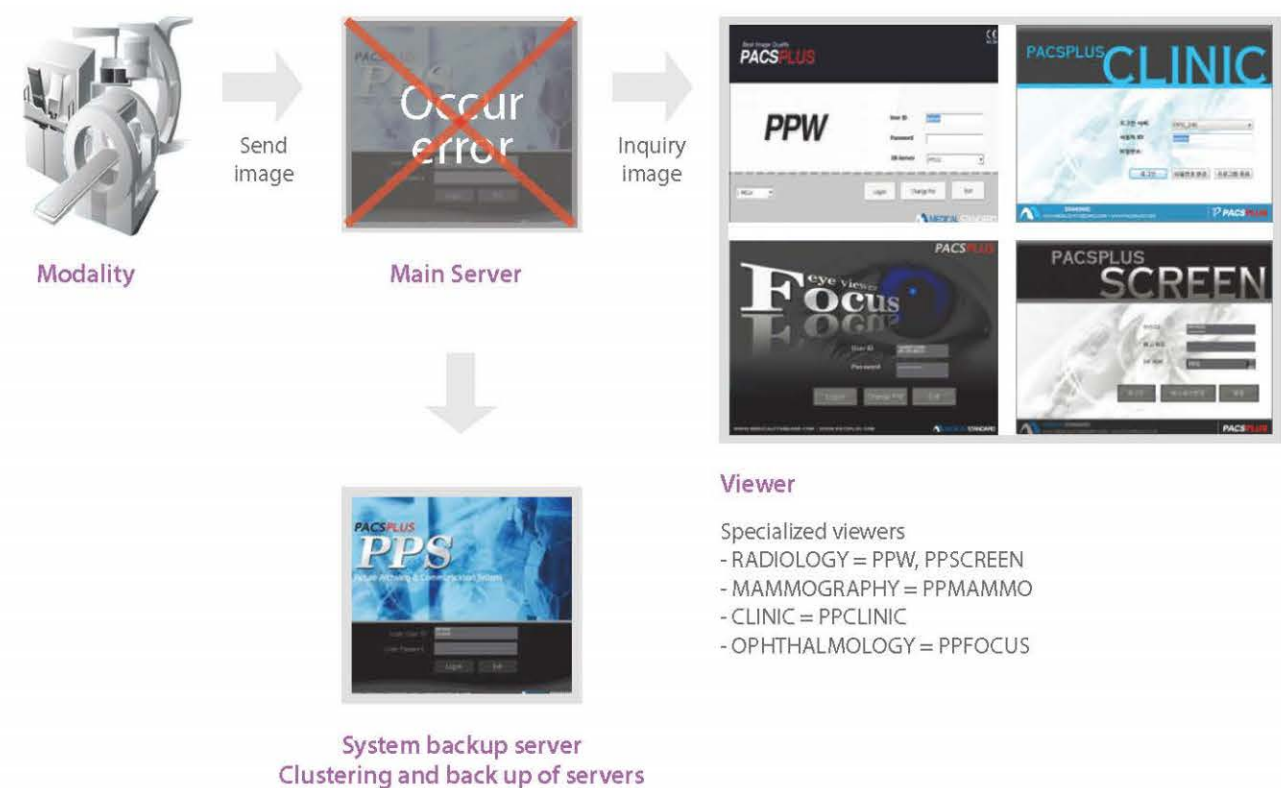» User-friendly with management tools
» Directly connect with specialize viewers from PACSPLUS (PPW, PPSCREEN, PPFOCUS, PPCLINIC, PPMAMMO).
» Using remote on-line service, save operation cost.
» Provides standards DICOM compression (JPEG, JPEG 2000)
» Upgraded, more advanced server system to manage and operate with large amount of data produced everyday at the clinic, PACSPLUS server provides optimized platform with stable and powerful operating system.
» Designed to reduce system overload and modulated for easy expansion.

PACSPLUS Server

· High performance and reliable system.
· Complete system backup of PPS

Modality → Send image → **Main Server** (Occur error) → Inquiry image → **Viewer**

Specialized viewers
- RADIOLOGY = PPW, PPSCREEN
- MAMMOGRAPHY = PPMAMMO
- CLINIC = PPCLINIC
- OPHTHALMOLOGY = PPFOCUS

System backup server
Clustering and back up of servers

Storage Information

STS (E:\STS)
Storage Type : Short Term
Access Type : Network
Shared Name : STS

Storage Used Status

Total : 931 GB
Free : 825 GB
Use : 105 GB
Critical : 638 GB

PPS v5.1.6.0007
DB File Size : 19 MB

PPH

PPH (PACSPLUS HIS, RIS, EMR Interface)

PPH is a gateway which communicates between PACS system and OCS/RIS/HIS system. PPH supports many functional communication that cannot be processed by DICOM modality alone
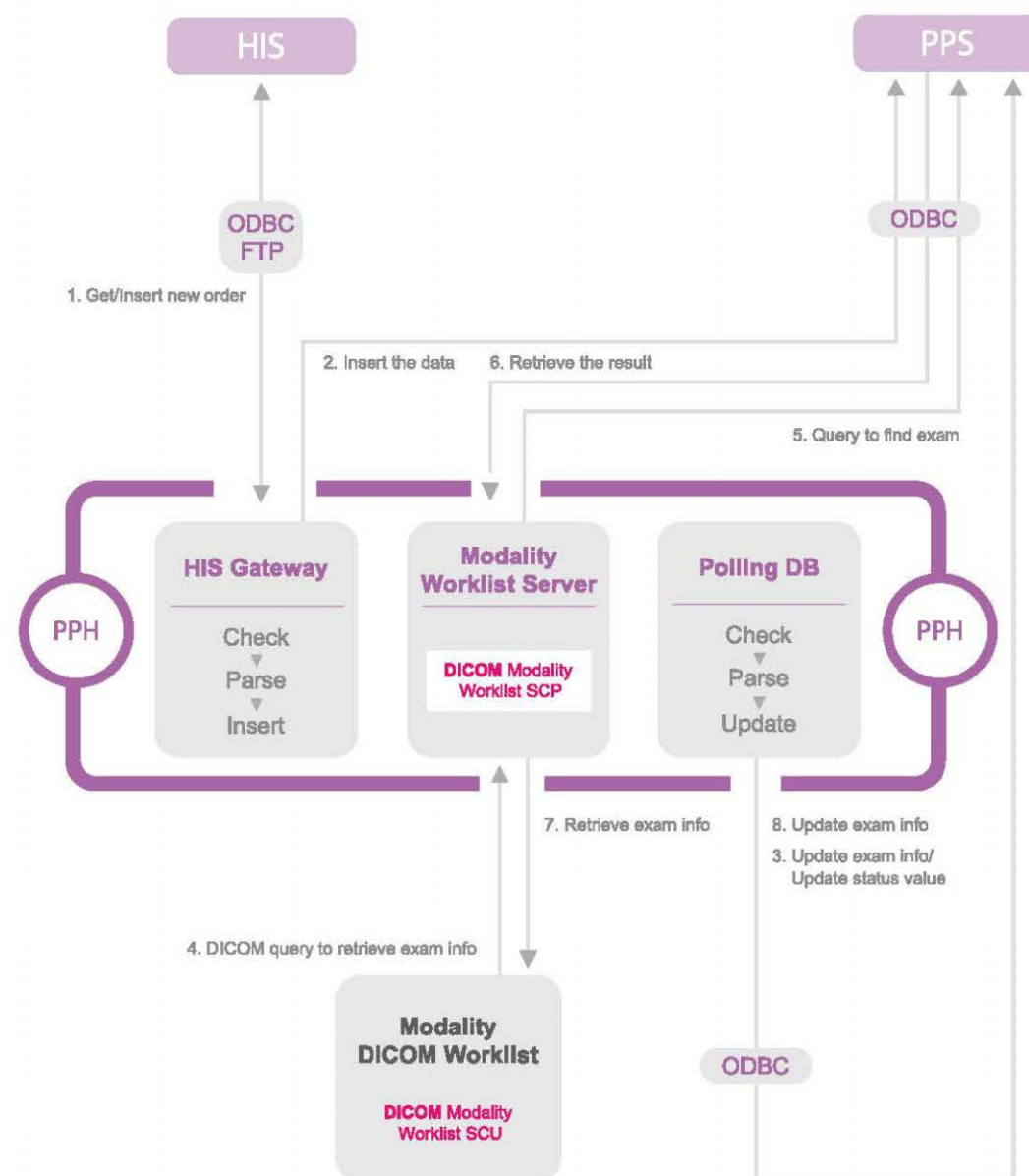
Features

» **HIS communication**
Process Order and Report data from HIS and communicate with PACS system.

» **DICOM modality worklist SCP**
Send Order information from HIS to modality via MWL SCP.

» **Exam Process**
Based on order information from HIS, mapping of entire order and report process is possible.

» **Multiple form of database is supported for ultimate compatibility.**

» **Key Modules**

» **HIS Gateway**
Connects directly to RIS/HIS to receive patient and exam information and input to PPS database.

» **Modality Worklist Server**
PPH has embedded DICOM worklist which provides Modalitys Worklist SCP patient and exam information.

PPWEB

PPWEB (PACSPLUS Web-PACS)

PPWeb system provides PACS administrators, radiologists and other physicians with on-demand cost-effective access to clinical images from virtually any location. Patient data can be accessed via a web browser whether you are located on-site at the hospital, at your office, or at home. Only approved users who possess the required credentials can access the Web-PACS system. PPWeb enables teleradiology system through its optimized web-based design.

Features

» View or Diagnose images from anywhere with internet connection.
» **Utilize in emergency or off-site diagnosis.**
» No need for expensive PACS server client.
» Manage access to images to authorized user only.
» No need for separate installation. (uses web browser plug-in)
» Most economical solution
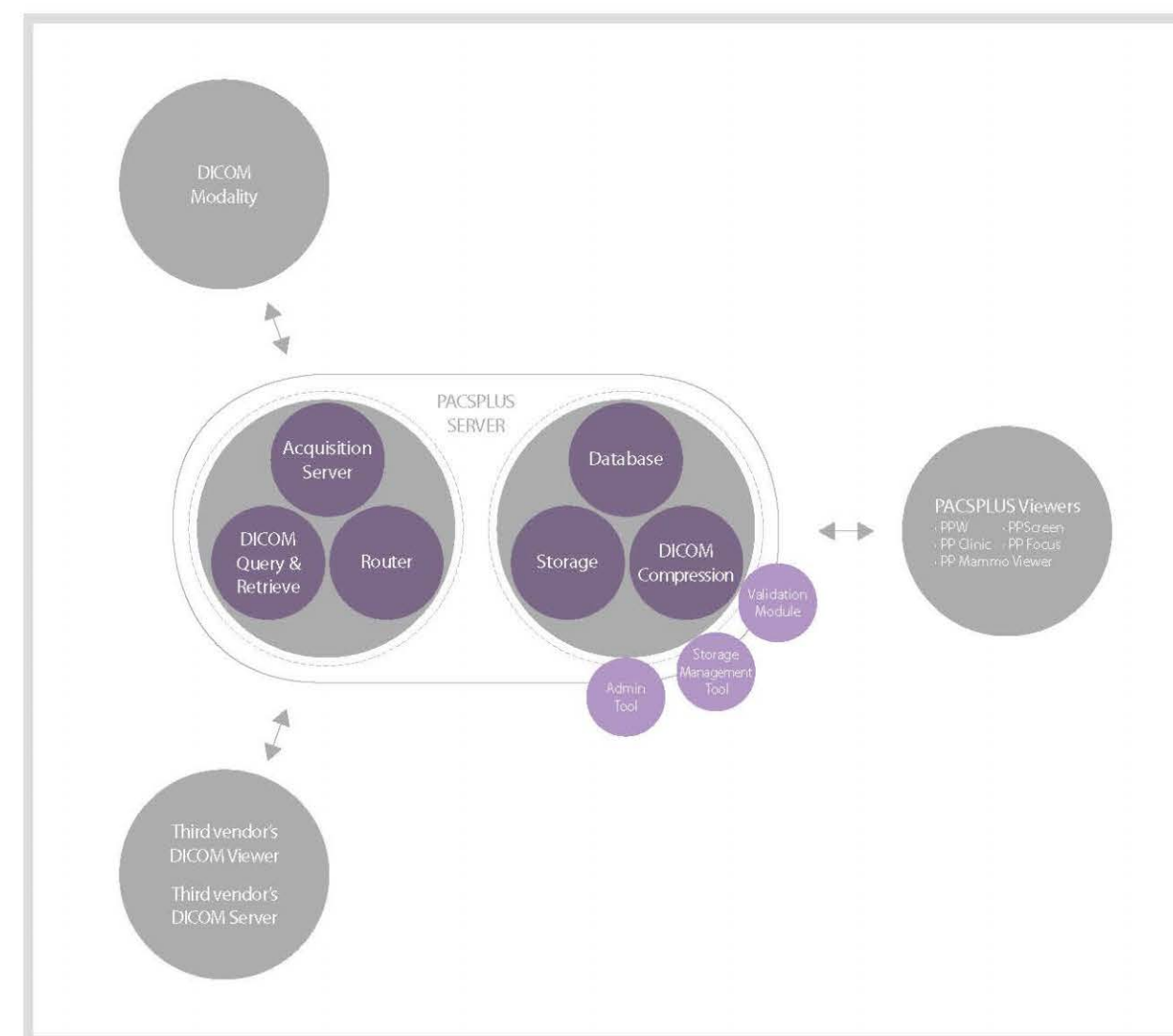

PACSPLUS SERVER Configuration

PPMOBILE

PPMOBILE (PACSPLUS Mobile)

PPMobile PACS is a revolutionary advanced viewing application that can take images from virtually any PACS currently utilized and send it to a handheld device or mobile smart phone via wireless internet. PPMobile PACS Viewer module allows the viewing and manipulation of images, such as chest X-rays, bone X-rays, CT scans, MRI scans, and virtually any medical imaging modality. PPMobile PACS gives members of the medical team access to patient information even when they're caring for patients in multiple locations, or travelling outside the facility.

Features

» Mobile PACS access platform
» Display DICOM studies on smart phones
» Provide instant clinical decision support
» Window width/level contrast adjustments
» Zooming in/out, Panning
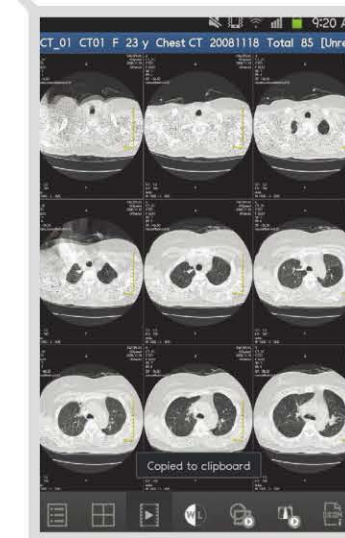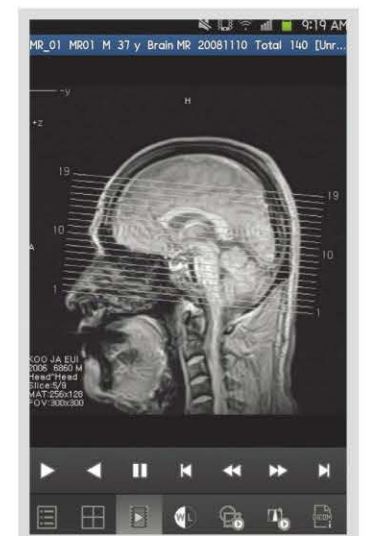» Cine Mode
» Measurements (Length, Angle)
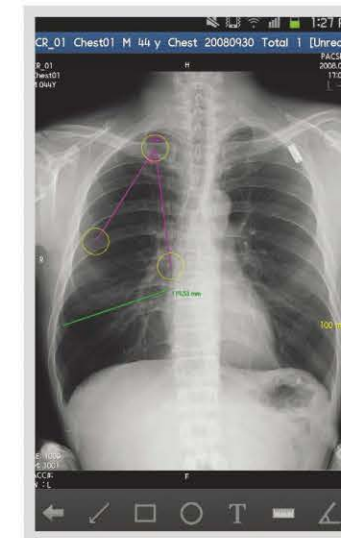
Measurement

Image Layout

Scout View

Medical Standard Dental
PACS

PACS PLUS Dental

Medical Standard delivers fast and flexible Dental Solution to display dental images with advanced implant Simulation and Analysis for dentists. Medical Standard Dental offers visualization and analysis tools optimized for Dental departments, while also supporting an integrated viewing environment. It offers world class service through our SaaS (Software as a Service) model, Smart Service, including continuous solution upgrade and near zero-downtime performance. Medical Standard Dental provides greater value for the end user and reduces IT support requirements.
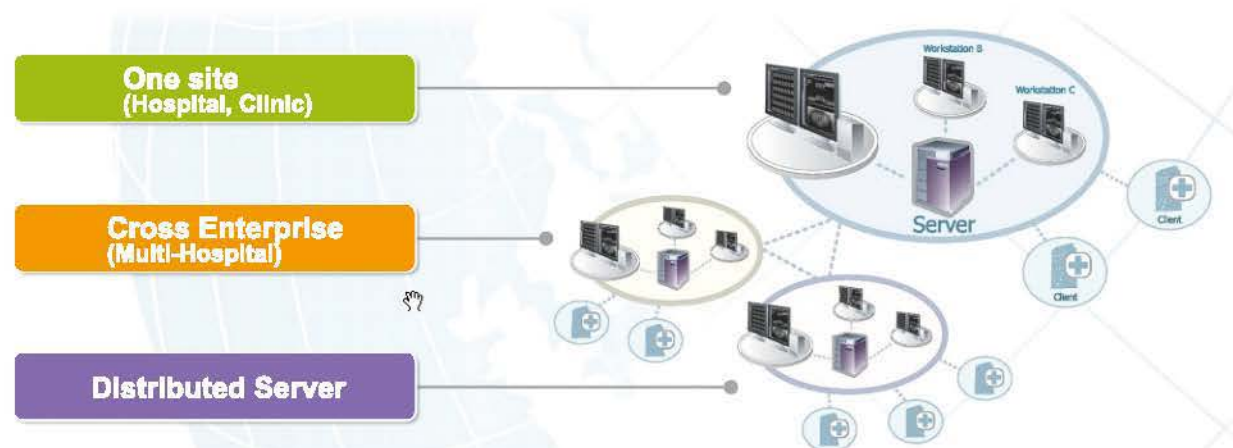
Features

» Scalable and Expandable Architecture
 - Completely scalable and expandable from single-modality imaging centers to large academic medical centers, multi-site organizations and regional health information exchanges(HIEs)

» Image Archiving and Backup
 - CD-R, DVD-R and/or Tape with automatic labeling for off-line data backup and distribution.
 - Unconditional data backup and offsite storage for Disaster Recovery
 - Selectable image compression for faster distribution and maximum storage capacity
 - Dual online archive provides image security and failover protection

» Image Distribution and Viewing
 - Dental Mode supports FMX Mode on I/O Images
 - Automatic drawing of Scout Lines on selected images. Any user can select an image as the scout image quickly and intuitively.
 - DICOM compatible Grayscale Softcopy Presentation State(GSPS)
 - Efficient and instant communication tools for dentists and technologists.
 - Medical Standard's roaming profiles allow each individual's setting to follow them regardless of where they log in
 - User-configurable settings, worklist wizards and very advanced hanging protocols provide individuals with an optimized viewer interface.
 - Tailor made application profiles for radiologists and dentists
 - Anytime and anywhere access to all exam data and viewer functionality.
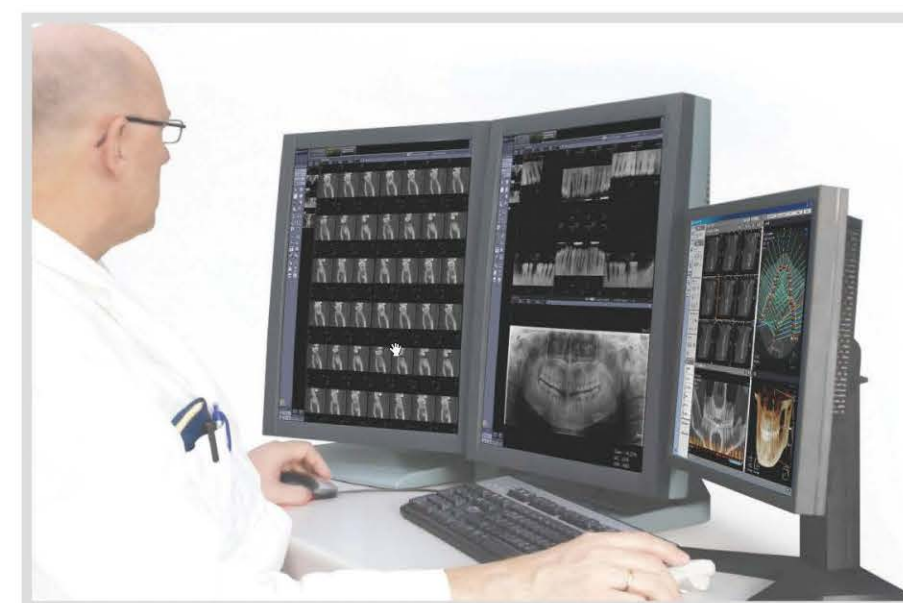
PP3D

PP3D is a general 3D solution that visualizes 3 dimensional images from a data set of large volume rapidly and conveniently. It has a diagnostic function and it is useful to find lesions and to apply for all the diagnostic fields. Also PP3D supports effective and accurate diagnosis with the post processing for Angiography. Bronchoscopy, Gastroscopy, Bone, Hepatobiliary, Volumetry, Venography.
It provides Automatic Bone Removal and Vessel Analysis with user friendly graphic user interface.

Features

Flexible License Type

- Full package: To use all of the specialized modules to be economically feasible.
- A specialized module: It is selective to install and to use a specialized module.
- Easy to integrate with Medical Standard PACS
- Concurrent User Access
- Regular Upgrade Service: To provide the software upgrade service 2-3 times per year.
- 3D Volume Rendering. MIP/MinIP/MPR/Slab Rendering
- Automatic bone removal function as well as precise manual segmentation
- Advanced vessel analysis
- 3D Volumetry function for the tumor volume or organs such as lung and kidney
- Automatic Cardiac Axis view - Chamber view(HLA, VLA, SA)
- Powerful MPR slab review including 4D Cardiac MPR and VR image to visualize cardiac wall motion and contractility
- Automatic blood pool segmentation, detection of LV contours and LV Analysis
- Enables trust building communication between patients and professionals.

This advanced visualization software is designed for better data loading and reconstruction of large-volume datasets. while the Web-based technology enables access from any Internet connected or wireless PC.

PPRT

Radiation Theraphy Image Management Solution

Medical Standard RT PACS is a dedicated Radiation Theraphy image management solution for Radiation Oncology.

Features

- Filmless / Paperless
- Vendor Independent(DICOM RT Compatible)
- Displays All Plan Data
- Full 3D Display
- Plan Sum / Comparison
- Integration with EMR or HIS

By using Medical Standard RT PACS, RT Plan images and information (via DICOM RT) from the Treatment Planning System of the various vendors can be stored and managed. It also transfers DICOM RT type Plan Images/Information to EMR or HIS through HL7 or Database Link.

» Displays All Plan Data

- CT / ROI
- Dose Distribution
- DRR Image / Portal Image
- DVH Graph
- CBCT Image
- Beam Information

» Plan Sum / Comparison Mode

- Provides Dose Summation for two or more plans
- Provides Dose Summation for different RTP plans(only for same CT)
- Compares different plans for quality evaluation
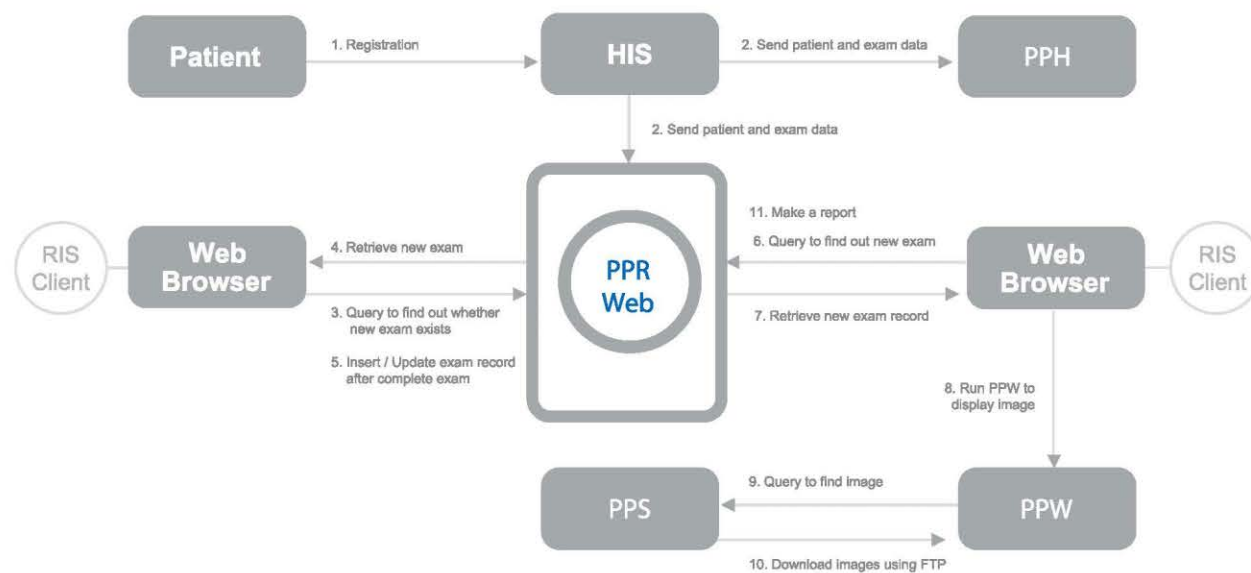- Provides Dose Comparison for 4 plans

» Full 3D Display

- Provide axial, sagittal, coronal, VR mode
- Selectable ROI and Dose distribution
- Adjustable percentage of Dose distribution
- Adjustable window width Level
- Supports various RTP with DICOM RT

PPRWeb

What is PPRWeb?

PPRWeb is a web-based RIS Web solution which can be utilized at hospitals and imaging centers. PPRWeb manages patient registration, arrival, radiology department reservation, examination and diagnosis. PPRWeb enables users to input, search and modify patient/examination data and related statistics. It can be integrated with PPS.

Patient → 1. Registration → HIS → 2. Send patient and exam data → PPH
2. Send patient and exam data
RIS Client — Web Browser — 4. Retrieve new exam — PPR Web — 11. Make a report / 6. Query to find out new exam — Web Browser — RIS Client
3. Query to find out whether new exam exists
5. Insert / Update exam record after complete exam
7. Retrieve new exam record
8. Run PPW to display image
PPS ← 9. Query to find image ← PPW
10. Download images using FTP

Features

- Browser-based graphical user interface
- Comprehensive, innovative RIS functions
- Compliance with HIS system for reading report
- Compliance with 3rd vendor's RIS system
- Reading by multiple radiologists
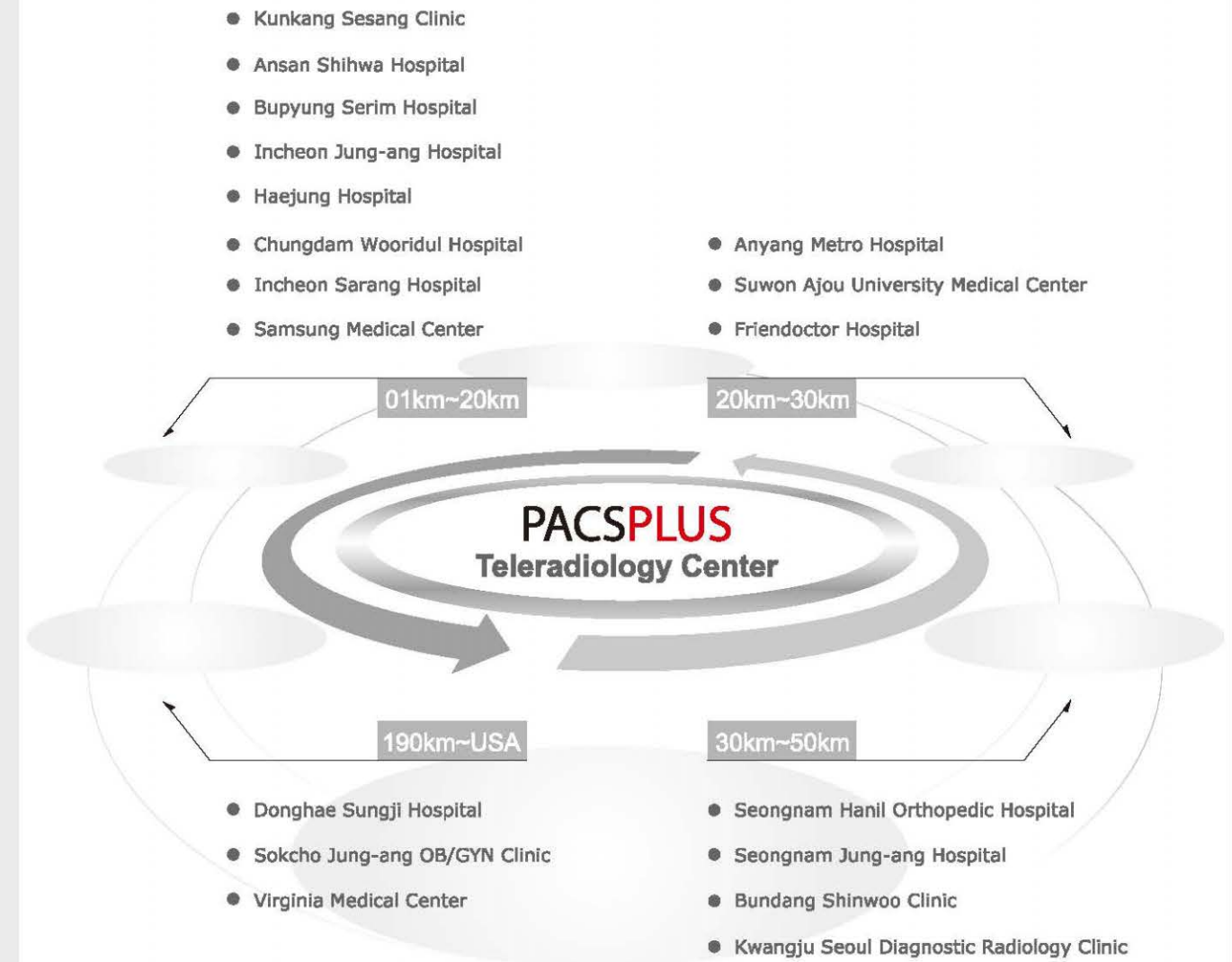
Modules

Register New Order | Change Exam Status | Worklist & Report | Customize Worklist

Teleradiology

- Kunkang Sesang Clinic
- Ansan Shihwa Hospital
- Bupyung Serim Hospital
- Incheon Jung-ang Hospital
- Haejung Hospital
- Chungdam Wooridul Hospital
- Incheon Sarang Hospital
- Samsung Medical Center
- Anyang Metro Hospital
- Suwon Ajou University Medical Center
- Friendoctor Hospital

01km~20km
20km~30km
PACSPLUS Teleradiology Center
190km~USA
30km~50km

- Donghae Sungji Hospital
- Sokcho Jung-ang OB/GYN Clinic
- Virginia Medical Center
- Seongnam Hanil Orthopedic Hospital
- Seongnam Jung-ang Hospital
- Bundang Shinwoo Clinic
- Kwangju Seoul Diagnostic Radiology Clinic

Teleradiology Group Practice

Teleradiology Group Practice Shigong Imaging Center using PACS**PLUS** software.
More than 200,000 exams annually.

- 6 full time & 15 part time radiologists
- CR, CT, MR, Mammo, US
- Multi hospitals, Multi vendors
- Digital reports automatically transferred to hospital RIS/HIS
- User macro reporting formats by each radiologist
- Secured HIPAA compliance