Building on a decade of experience in image fusion, MIM Software Inc. continues to develop leading vendor-neutral solutions for radiology and nuclear medicine.

MIM™ provides industry-leading tools for image review, fusion, and treatment monitoring for multiple modalities, including CT, MRI, PET, SPECT, and MRI. MIM also offers integrated packages for cardiac and neuroimaging with automated quantitative analysis for PET and SPECT.

The process of image interpretation can be cumbersome on many systems. With MIM, personalized viewing layouts and custom reading workflows streamline the image review process. You can save your work to continue at a later time, or save your complete analysis to share with your referring physicians. MIM is available on both Mac and PC, or as a PACS plug-in, providing flexibility for a wide range of users.

Now with the introduction of Mobile MIM™, the first FDA-cleared application for diagnostic image review on the iPad®, iPhone®, or iPod touch®, MIM provides unprecedented access to image data. Patient data can be stored securely on MIMcloud™ and accessed from anywhere on the Internet. With Mobile MIM and MIMcloud, you can collaborate with your colleagues and reliably share images anywhere, at any time.

“MIM has been an integral part of the success of our busy PET/CT imaging services. The speed and workflow enhancements within MIM have greatly improved our productivity, while MIMpacs and MIMcloud have allowed more efficient image management between our imaging centers, the reading physicians, and our referring physicians. Technical support and service from MIM Software has been excellent.”

Fabio Almeida, M.D.
Medical Director
Southwest PET/CT Institute
Tucson, Arizona

“Fusion image analysis at its best! Iconized tools and completely customizable keyboard shortcuts make the analysis of fusion images a simple task. The more you work with MIM, the more you discover its flexibility and potential. MIM does not tell you how to do your work, it makes sure you have all of the tools you need to help your patients.”

Mathieu Charest, M.D., FRCP
Service de médecine nucléaire
Hôpital du Sacré-Coeur de Montréal
Montréal, Québec

**Workflows – Efficiency, Flexibility, Consistency**

MIM’s customizable clinical reading workflows provide you with an automated and reproducible approach to image interpretation and analysis. A workflow, also known as a macro, is a sequence of scripted actions that are performed automatically by the software. Nearly all of the major tools in MIM can be added to workflows. You are able to register any number of studies automatically, seamlessly switch between multiple layouts, change color tables, and create screen captures, all without having to click a mouse. MIM provides an easy graphical interface to create these workflows, allowing you to adapt them to meet your specific needs.
Therapy Response

Clinicians are demanding more quantitative information to help guide their treatment decisions. Providing this information can be difficult for busy practices. MIM streamlines your reading workflow from the initial study to multiple follow-up exams and provides the tools necessary to give clinicians the quantitative information they require.

Auto-alignment allows for the fast comparison of any number of exams over time. MIM’s gradient-based PET segmentation technique, PET Edge™, takes the guesswork out of PET contouring. PET Edge accurately segments tumors to provide tumor volume and SUV statistics to assess response. PET tumor contours can also be saved as RTstructs and sent to radiation oncology departments.

MIM also provides tools for treatment monitoring using various response criteria such as RECIST and PERCIST.

MIM offers automated trending of tumor response using graphs and tables that highlight changes in tumor size and metabolism. The results can easily be conveyed to referring clinicians through integrated reporting tools, or by sending the information to PACS.

“MIM’s new therapy response tools have given me an unprecedented ability to provide a comprehensive assessment of response. Additionally, the image-based and graphical reporting tools have improved my ability to communicate the results to my referring physicians.”

Munir Ghesani, M.D.
Nuclear Medicine Physician
St. Luke’s-Roosevelt Hospital Center
New York, New York

PET Edge

PET tumor segmentation is playing an increasingly important role for prognosis, treatment planning, and treatment monitoring. In response to the difficulties inherent in segmenting tumors by visual delineation alone or with SUV threshold tools, MIM developed PET Edge, an innovative gradient-based segmentation method.

Visual tumor delineation is limited by the user’s expertise, variability between users, and the selected image contrast level. SUV threshold tools are limited by a number of factors, including the tumor uptake relative to the background, heterogeneous uptake within the tumor (e.g., areas of necrosis), tumor size, and partial volume effects. PET Edge avoids these pitfalls by robustly identifying the boundary between tumor and background using the greatest change in SUV value.

PET Edge has been shown to outperform SUV threshold tools across multiple PET cameras, reconstruction methods, tumor sizes, and levels of background activity. Additionally, studies have shown PET Edge’s superior accuracy using realistic digital NSCLC PET phantoms and pathological tumor specimens.
MIMcloud

MIMcloud is a secure, Internet-based medical image service that provides an easily accessible resource for storing, sharing, and viewing your data. MIMcloud allows you to archive your DICOM data off-site for as long as you need.

With MIMcloud, you can share images with referring physicians, partner institutions, and patients. Your chosen recipients can access their shared images from anywhere with Internet access, at any time.

There are a variety of configurations to simplify sharing among groups and individuals, and only users and accounts you authorize can decrypt data.

MIMcloud integrates seamlessly into MIM installations as a data source, just like the MIM Storage Server.

Alternatively, you can access data remotely through MIMcloud by launching MIMviewer® from any web browser connected to the Internet. Or download images directly from MIMcloud onto Mobile MIM for the iPad, iPhone, and iPod touch.

Secure Remote Access

MIMcloud provides secure, scalable, and redundant storage via Amazon S3, a distributed global storage mechanism. Designed for HIPAA compliance, MIM encrypts the data with military grade AES 128-bit encryption before sending it to MIMcloud. All data is transferred using SSL encryption and decrypted only when it arrives at an authenticated user’s computer.
Mobile MIM

Mobile MIM is a diagnostic imaging app for the iPad, iPhone, and iPod touch. Mobile MIM was designed to give imaging professionals a portable solution away from their workstations.

Portable viewing opens up almost endless opportunities for physicians. Now you can remotely consult with peers for difficult cases and overreads. You can give hands-on image access to tumor boards, seminars, and class members. Mobile MIM gives you unprecedented freedom when communicating imaging findings to referring physicians and patients.

Using MIMcloud, physicians can download images to their mobile devices from anywhere in the world. Alternatively, a MIM workstation can be used at a facility to transmit the images to Mobile MIM.

Mobile MIM provides “at rest” encryption through the use of a passcode and AES 128-bit encryption from within the app. All transfers use SSL encryption.

To enhance efficiency, the Mobile MIM app is designed as a thick client, which means the data is downloaded to the device for viewing instead of being streamed to your device from a server.

Mobile MIM features data set interaction using standard tools, such as zoom, pan, window, and level, and it displays volumetric data with multi-planar reconstruction. Mobile MIM allows the physician to annotate, measure distance and intensity values, and display regions of interest.

Mobile MIM is the first FDA-cleared medical imaging app for mobile devices. It is available for free from the Apple App Store™.

“The Mobile MIM application for the iPhone is the essence of cool for a radiologist who thrives on image display. The software is fast and intuitive. Referring physicians will be able to seamlessly review a patient’s images while consulting over the phone. Patients will be even more impressed.”

Peter Faulhaber, M.D.
Director, Clinical PET
University Hospitals Case Medical Center
Case Western Reserve University
Cleveland, Ohio
Neuroimaging

Interpretation of PET and SPECT brain images using only visual analysis can be difficult and subjective. To address this need, MIMneuro® provides an automated quantitative analysis solution for neurological disorders, traumatic brain injury, and more.

MIMneuro deformably matches a patient's brain to a database of normal brains for comparison. Statistically significant differences are highlighted for all of the voxels in the brain. For specific brain regions, significant differences are highlighted using an integrated brain atlas.

Cortical surface projections (or stereotactic surface projections) allow for quick localization of abnormalities and provide an easily understood view for your referring physicians.

Automated subtraction workflows help to identify and highlight subtle differences in perfusion, or track disease progression over time. Brain atlas regions can be used to calculate SUV ratios for comparisons.

“*We are doing twice as many Neuro PET exams as we did a year ago. This is a direct result of the quantitative capability of MIMneuro, which allows us to generate more definitive reports that our clinicians have confidence in. MIMneuro is an enormous tool for neuro PET, and in my opinion an obligatory tool.*”

Larry McNamee, M.D.
Medical Director
Specialty Teleradiology
Westlake, Ohio

“The MIM workflow significantly reduces processing time by our technologist from an hour to minutes. I can even quickly process the data myself, so that I can read the study when I’m ready, not when it’s ready. Also, the cluster analysis increases my diagnostic confidence.”

Peter Faulhaber, M.D.
Director, Clinical PET
University Hospitals Case Medical Center
Case Western Reserve University
Cleveland, Ohio
Cardiac Imaging

With the growing use of PET in addition to SPECT, and the incorporation of CT and MRI into the workup of a cardiac patient, multi-modality analysis tools are needed. In a single integrated software solution, MIMcardiac® provides quantitative analysis tools for PET and SPECT and tools for fusing functional images with CCTA and MRI.

Accurate segmentation of the left ventricle is essential for generating reliable LV volumes and functional parameters such as the ejection fraction. MIMcardiac provides a robust and accurate segmentation method based on deformable registration that overcomes many of the limitations of traditional segmentation methods.

MIM's fusion technology is utilized for aligning stress to rest images, which facilitates the comparison of corresponding myocardium and highlights areas of ischemia through color-coded difference images. Additionally, difference images can be created for perfusion/metabolism images to highlight areas of viable myocardium.

MIM’s fusion tools can also be used for quality assurance by providing a method for the review of PET/CT and SPECT/CT scanner alignment for possible attenuation artifacts.

MIMviewer

As a low-cost solution for viewing DICOM files or fused studies, MIMviewer allows you to perform image review and analysis from your reading room, office, or home.

MIMviewer is included as an essential feature of MIMfusion® and is also available as a PACS plug-in. You can also easily create MIMviewer DICOM CDs for your referring physicians.

MIMviewer Pro provides additional features for advanced image review and manipulation of PET, CT, PET/CT, and SPECT/CT image data, and for sharing with patients and colleagues interactively.

Storage Server

The MIM Storage Server is designed to get data to where it needs to be, when it needs to be there.

The MIM Storage Server provides tools that allow you to configure statuses for tracking your series, connect to your existing LDAP or Active Directory® server for unique user logins, automatically sync to MIMcloud, and compress data transfer to ensure fast access to the data you need.

Since the MIM Storage Server is a software solution, you can customize your system with as many mirrored server and drive backups as desired. And you can easily expand your capacity with off-the-shelf hardware as your storage and archive needs grow.
intuitive and efficient interface
multi-modality fusion & display (PT, NM, CT, MR, 2D)
assisted alignment on user-defined local anatomy in ~10 seconds
intuitive manual alignment
comprehensive PET review
multiple display options
synchronized display of aligned images
on-screen help
subtraction/difference images

radiation oncology
atlas-based segmentation auto-generates structure sets
adaptive re-contouring for more efficient replanning
deformable alignment of PET/CT to planning CT
4D deformable contour propagation from one phase to all phases
deformable dose accumulation aids treatment decisions
ture 3D contouring in all planes

neuro
probabilistic and single brain anatomical atlases
quantitative comparisons to a normal database
automated deformable registration for PET/SPECT
region, voxel, cluster, and cortical analyses
features and analysis in patient space to aid in surgical planning
fusion of PET/SPECT volumes or subtractions with MR/CT

cardiac
automatic cardiac segmentation
automatic calculation of cardiac volumes
gated PET/SPECT LVEF measurements
fusion of stress/rest images
difference images highlight changes in activity

MIMcloud
access images from anywhere
web-based viewing solution
seamless integration with MIM workstation software
share easily with colleagues or patients
short-term or long-term remote storage
security designed for HIPAA compliance

enhanced marketing tools
MIMviewer Pro DICOM viewer with fusion capabilities
screen capture utilities
report generation
annotation

RT-PACS / networking
DICOM send/receive & query/retrieve
RT DICOM support for plan, dose, beam, etc.
send volumes and secondary captures to PACS
FTP send/receive
fully integrated multi-modality PACS
secure network user login (LDAP integration)
automatic study routing / retrieval / archival
per-user configuration

import formats
2D DICOM NM, US, CR, DR, CT scout, Secondary Capture
3D DICOM PT, NM, CT, MR
DICOM RTSTRUCT
JPEG, TIFF, BMP
ECAT PET

output formats
DICOM aligned PT, NM, CT, MR
DICOM RTSTRUCT
DICOM Secondary Capture
MIP as DICOM, AVI, MPEG
JPEG, TIFF, BMP
DICOM Report
DICOM Print, Windows Print

system specifications - PC
Intel® Core i7 (Quad Core)
8+ GB 800+ MHz RAM
16x CD/DVD +/- RW Drive
1 TB Hard Drive
512 MB Dual DVI Graphics Card
One 24” LCD or Two 19” LCD
Gigabit Ethernet
Microsoft Windows 7® Professional 64-bit or
Microsoft Window vista® Business 64-bit

system specifications - Mac®
iMac® 27-inch – Intel Core i7 / Mac Pro – Intel Quad-Core Xeon
8+ GB RAM
SuperDrive®
1 TB Hard Drive
512MB ATI or NVIDIA® Graphics Card
Apple® Display(s)
Mac OS® X 10.6

Apple, the Apple logo, iMac, iPad, iPhone, iPod touch,
Mac, Mac OS, and SuperDrive, are trademarks of
Apple Inc., registered in the U.S. and other countries.

© 2011 MIM Software Inc., All Rights Reserved