Merge Eye Care PACS™
Advanced Ophthalmic Image Management
Introduction
As a standalone application or integrated with an Electronic Health Record (EHR) system, Merge Eye Care PACS integrates all of the diagnostic devices and clinical applications in the practice into one cohesive system, giving physicians the ability to review all of their patient’s images and diagnostic reports side-by-side from anywhere, at anytime via Internet Explorer.

With Merge Eye Care PACS, Merge Healthcare combines the user experience benefits of a traditional application with the infrastructure benefits of a web-based application to produce the only full-featured web-based image management solution available. For the first time ever, users are able to do advanced image enhancements, use advanced review tools like AutoMontage and PerfectView, leverage new industry standards like OCT, and record subjective data. These unprecedented, clinically relevant innovations have led to more than 2,000 ophthalmology sites adopting Merge Eye Care Solutions for their digital imaging and image management needs.

Automatic Image and Report Acquisition
The cornerstone of the Merge Eye Care PACS image management system is AutoImport technology, which automatically acquires a copy of every image and diagnostic report captured within the practice often with no user interaction. When compared to traditional importing technologies that require manual time and effort, AutoImport frees up staff to focus more on the patients coming through the practice, and eliminates the possibility of human error resulting in lost records. Even older legacy devices can enjoy full demographic validation by integrating with patient management systems via HL7.

EHR Integration
Merge Eye Care PACS easily integrates with leading EHR systems, delivering single click access from a patient’s progress note within the EHR to that patient’s images and diagnostic reports within Merge Eye Care PACS. This fully integrated configuration provides for instant access and the ability to review images and diagnostic reports with all of the needed image enhancement and advanced review tools.

Merge Eye Care PACS is the most advanced ophthalmic image management system available, combining features and technologies not available elsewhere that produce workflow efficiencies unimaginable only a few short years ago.
Multiple Location Support
Merge Eye Care PACS thrives in multiple location practices, using a combination of exclusive technologies that result in instant access to images and diagnostic reports captured at all of a practice’s locations. With the Merge Eye Care PACS distributed data model, Merge Healthcare delivers a combination of system speed and image quality that is unprecedented within eye care. With this model, images no longer need to reside at a single physical location. Instead, the system is able to manage image locations so images can be reviewed as soon as they are captured rather than waiting for them to be transferred to a single central host location. During periods of light system use, like the middle of the night, the images can be transferred to a main hosting location if desired.

The user experience in this workflow is seamless. During the normal use of Merge Eye Care PACS, users will not be aware if the image they are reviewing resides on the host or in a satellite location. In addition to adding flexibility and system speed by eliminating the need to transfer an image before it can be reviewed, Merge includes groundbreaking Dynamic Image Scaling technology with the distributed database model to continue to deliver unmatched speed and image quality.

Interpretation Report
The Interpretation report is a customizable tool that allows practices to store clinical interpretations of testing data within the Merge Eye Care PACS application. With Interpretation report, the data fields can be customized to match a practice’s needs and all of the data will be stored within the database.

Once data is entered into the Interpretation report, messages are automatically sent via HL7 to other clinical information systems within the practice. With the ability to automatically distribute data to the people and systems that need it, Interpretation report provides the dual benefit of providing efficient data entry at the time of image review, as well as eliminating the time consuming and mistake-prone task of moving data from one system or one individual to another.

Advanced Review Tools
The Merge Eye Care PACS Advanced Review Tools take the images, reports and videos that have been captured by the Merge Eye Care PACS image management system and either combine them or enhance them to make it easier for the clinician to identify and track pathologies. With these tools, users can focus their time and effort on diagnosing and treating disease—rather than wading through the volumes of data captured by different diagnostic devices within the clinic.

AutoHistory
With AutoHistory, practices can review their diagnostic reports side by side in a virtual stack; allowing them to page through visits by simply using the scroll wheel on their mouse.

AutoHistory is compatible with the following types of ophthalmic diagnostic devices:

- Autorefractors
- Corneal Topographers
- ERGs
- OCTs
- Optic Nerve Head Analyzers
- Pachymeters
- SLOs (Including HRA and RTA)
- Visual Field Analyzers
**AutoMontage & AutoMontage On-The-Fly**  
These features automatically and seamlessly combine multiple fundus images together into a single color corrected view of the retina.

**PerfectView**  
Enables the combination of multiple retinal image types for a single interactive view. Images are automatically registered and the user is presented with an interactive view for viewing pathologies across multiple image types and tracking change over time.

Compatible Image Types:
- Color Retinal
- FA
- FAF
- ICG
- Optic Nerve Head Images
- Red-Free Images

**OCT Image Viewing**  
OCT is a major increasingly used modality at nearly every eye care facility to obtain high-resolution images. Merge is one of the first vendors to support OCT standards, displaying the fundus image along with the associated B-scan images. By supporting the OCT standard, Merge Eye Care PACS can be used as a single viewer, eliminating the need for practices to buy multiple review licenses from individual OCT modality vendors.

Like other advanced review tools in Merge Eye Care PACS, the controls for viewing and manipulating OCT images enable users to view images side-by-side, scan through frames, perform detailed measurements and more. And as the industry OCT standard continues to develop, Merge Eye Care PACS will become more advanced as well.

**Dynamic Image Scaling**  
Merge Eye Care PACS is the only image management system with Dynamic Image Scaling - eliminating the need to compromise between system speed and image quality. For the first time ever, users can evaluate pathology at full-resolution without needing to choose between transferring massive files or applying damaging compression. Modern ophthalmic digital imaging systems are capable of capturing images that are 25MB or larger—resulting in clarity and detail never before seen. Unfortunately, even 24” monitors have only enough pixels and screen real estate to display about 1MB of the image at a time. Until now, all image management systems have been forced to choose between sending large images very slowly, or using damaging compression to send images quickly.
Merge Eye Care PACS is the only ophthalmic imaging management system with dynamic image scaling. The system automatically and instantly scales the full size image and sends a high quality version of only what will fit into the window. When the user zooms in or navigates within the image, the system will instantly send an optimized image.

In this example, a high resolution retinal image is being reviewed using both Dynamic Image Scaling and the method used by a competitive system.

By using Dynamic Image Scaling, Merge is able to transmit a much higher quality image with a file size that is about half the size of competitive systems.

About Merge Eye Care Solutions
Merge Eye Care Solutions provide a suite of products specifically for ophthalmic imaging and informatics, including a digital imaging management system and a modular imaging device that can capture images of both anterior and posterior segments.

Merge Eye Care Solutions provide an opportunity for practices to meet the growing need for increased patient visits, early detection and accurate tracking of disease progression.

About Merge
Merge is a leading provider of clinical systems and innovations that seek to transform healthcare.

Merge delivers enterprise and cloud-based solutions for image intensive specialties including radiology, cardiology, orthopedics, and ophthalmology. Merge also provides health stations, clinical trials software and other health data and analytics solutions that engage consumers in their personal health.

With solutions that are used by providers and consumers and include more than 20 years of innovation, Merge is helping to reduce costs and improve the quality of healthcare worldwide.