

> Merge Healthcare Cardiology Differentiators



+ *The search for a new cardiology solution only can be incredibly confusing due to the variety of alternatives in the marketplace. Each solution is different but it can be hard to determine what each vendor's differentiators are and how those differentiators are relevant to an organization like yours.*

As the leading independent medical imaging software company, Merge has no competing agendas with other hospital IT solutions or modality sales. Instead we have spent more than 20 years developing cardiology solutions that are designed to improve productivity and quality. Deployed at many of the major cardiac institutions in the country, our cardiology solutions have a proven track record of success. Time, focus and great customer input have built a solution for single-point access to your patients' digital integrated cardiovascular record, as envisioned by the American College of Cardiology (ACC).

The list below sets forth the things that differentiate Merge Cardiology Solutions from the competition, and sums up what we proudly offer to our prospective clients.

1.A True Multi-Modality Solution

Merge Cardio™ integrates data from different sites and different sources to create a comprehensive digital record on the patient. At any time and from anywhere, physicians and other healthcare professionals can have instant access to the patient's complete up-to-date cardiac file, including:

- All cardiac imaging for catheterization, intravascular ultrasound, echocardiography, nuclear, computed tomography, cardiovascular magnetic resonance, and x-ray
- Advanced applications for 4-D echocardiography, advanced nuclear medicine, computed tomography, angiography, and pediatric echocardiography
- Other data sources, such as hemodynamics, electrocardiography, outpatient records, and physician reports
- From multiple locations, including the reading room, surgery, emergency room, physician offices, and clinics

Because of Merge Cardio's tight adherence to standards such as DICOM and HL7, our interoperability capabilities are unmatched. By eliminating silos of information within cardiovascular modalities, hospitals, and physician offices, Merge Cardio delivers a complete longitudinal cardiovascular record that's organized as it should be – around the patient. Merge Cardio makes this digital record available throughout

your enterprise, regardless of the size of your facility or the geographic distribution of your cardiology services.

2. A Streamlined Reporting Solution

Merge Cardio's unique Web-based clinical reporting improves cardiac patient management by streamlining the report generation and distribution process. Designed by practicing cardiologists, Merge Cardio's reporting features encompass all elements of the cardiac diagnostic process within a structured yet flexible methodology that feels like second nature to cardiologists. Merge Cardio's advantages for clinical reporting provide the ability to:

- Generate reports anywhere and at any time via Web-based technology.
- Access to comprehensive and clinically-rich multi-modality knowledge bases allows you to describe virtually any known cardiac abnormality.
- Accelerate reporting via interactive anatomical diagrams to ease navigation and description of clinical findings.
- Simplify reporting via extensive, user-definable quick reports and measurement pre-population.
- Automatically integrate information from Merge Hemo™ to eliminate duplicate data entry and increase efficiency.
- Digitally sign and distribute reports electronically (HL7) or via fax.

3. An ACC-NCDR Certified Solution

As an ACC-certified vendor, Merge simplifies your cath lab's participation in the ACC National Cardiovascular Data Registry (ACC-NCDR) quality measurement program. Merge Cardio's key advantages for ACC-NCDR participation include:

- Simplifying your continuous quality improvement efforts with ACC-NCDR Cath PCI Registry Reporting
- Automatically importing data that's captured as part of the normal cath lab patient monitoring and reporting process
- Benchmark your institution's performance against national norms, while minimizing the administrative overhead and time commitment of your staff or coders

4. A Powerful Yet Simple User Interface for Hemodynamic Data Collection

Merge Hemo was developed at one of the nation's leading heart centers with the assistance of cardiovascular technologists who understand cath lab workflow first-hand. Because of this pedigree, Merge Hemo provides one of the most efficient flexible interfaces making your cath workflow faster and more efficient. Some advantages of the Merge Hemo interface include:

- Intuitive data capture that utilizes the concept of a patients' chart where the information required is logically segmented into folders and tabs to allow you to easily keep up with the fast pace of any cardiac cath procedure.
- An elegant touch screen interface makes documenting any procedural action easy by enabling data elements to be dragged and dropped right into the procedure log.
- Concurrent access to patient studies allows multiple users to document data on the same patient at the same time.
- Templates for data collection can be designed to conform to your workflow – rather than requiring your facility to have to redesign your workflow around the solution – and this allows your facility to specify the data collected at every point of care.
- Flexible waveform visualization allows you to view invasive pressures, 12 lead ECG's, thermodilution cardiac outputs, non invasive patient monitoring elements that include; heart rate, NIBP, respiratory rates, patient temperature, SpO2, EtCO2 and Apnea values in multiple formats – or simultaneously on one easy-to-read screen.
- Record more than 400 hours of multi-procedural full disclosure waveform data to ensure that all critical case data is captured electronically and never missed.

5. A Comprehensive System for Your Cath Lab

Merge Hemo focuses on improving workflow, analysis, and quality through a standards-based approach. Some of these advantages include:

- User defined templates designed to match your workflow with automatic population of known data fields – which reduces errors and eliminates duplicate data entry.
- Easy-to-use data-mining tools allow your lab manager to extract the information they need, including:
 - Analysis of clinical outcomes and pathways
 - Evaluation of department performance
 - Quality and accreditation initiatives
- An integrated inventory management tool tracks supply usage and automates inventory management, which enables you to manage costs more effectively.

- To further your quality initiatives Merge Hemo captures 100% of the data elements required by the ACC for the Cath PCI Registry*.
- Because of Merge Hemo's standards-based approach, you get top-of-the-line performance, reliability, and crisp visualization.

6. A Powerful Pediatric Echocardiography Reporting and Workflow Solution

Tightly integrated to the Merge Cardio platform, Merge EchoIMS™ is a powerful echocardiography information management system available for the detection, assessment, and treatment of congenital and acquired heart disease in fetal, neonatal, and pediatric patients. Merge EchoIMS is focused on providing direct access to a massive library of normative echocardiography case data, streamlining your interpretation and reporting process, and enhancing your pediatric echo department's workflow.

Key benefits of Merge EchoIMS include:

- Clearly document the patient's condition with more than 1,600 pediatric and 1,000 fetal findings that can be further modified with both etiology and severity codes.
- Easily compare the patient's coronary condition to normative values derived from one of the largest and most comprehensive pediatric echocardiography databases – more than 140,000 cases.
- Provide a more comprehensive foundation for treatment by accessing more than 200 electronic diagrams of congenital heart disease from the Mullins & Myers Atlas that can be annotated with measurements and text, marked up, and inserted into the final report.

7. A Standards Based Vendor Neutral Archive

As imaging and patient data volumes continue to grow and interoperability between systems becomes increasingly important, using a standards-based solution that's been proven and can interface with multiple vendor solutions is critical. Without a centralized solution, you're left with various islands of information, which makes it impossible for your organization to accomplish enterprise-level objectives.

As the foundation of Merge Cardio, iConnect™ VNA offers a vendor-neutral archive that bridges these gaps. This solution grows with your organization, while providing excellent interoperability with other systems via strict adherence to industry standards. iConnect VNA helps

satisfy short term interoperability requirements and then, ultimately, provides you with longer term sustainability of clinical content. Key benefits of our vendor-neutral archive solution include:

- An all spinning disk architecture keeps your studies online for immediate access no matter how old the exam.
- High-availability features make the system available at all times so your doctors never experience any downtime.
- Proven compatibility as a vendor-neutral solution enables us to interface with all modality vendors
- A single solution consolidates an otherwise disparate infrastructure, drives operational efficiencies in clinical departments and in IT – which results in a low total cost of ownership.
- Avoid costly data migrations as physician preferences for departmental solutions change – iConnect VNA is the permanent home for all of your studies.

8. ECG Management Integrated Side by Side With Imaging

In addition to the many standard features described previously for the Merge Cardio diagnostic workstation, there are key integrations with clinically specific third party applications. These integrations provide the physician with access to additional clinical information relevant to providing critical patient care. These key integrations eliminate the need for multiple workstations, log- ins and monitors and leverages the Merge Cardio diagnostic workstation as the single source for review and reporting on the complete cardiovascular patient record.

- Collect, store, and analyze ECG information from over 60 different devices from more than 30 companies covering more than 10 cardio-pulmonary modalities.
- Reduce costs by utilizing existing equipment and eliminating time consuming inefficient paper based processes.
- Eliminate expensive long term support contracts from ECG vendors who provide proprietary ECG review stations.
- Increase efficiency by providing all doctors central access to a patient's complete cardiac record eliminating the need to go multiple places and review multiple ECG formats
- Reduce the amount of time for ECG review through an intuitive user interface allowing physicians to review stacks of ECGs quickly via a single click "Confirm and Next" feature.

We also offer interfaces to other third party ECG

management systems like GE MUSE Web, Cardiac Science Pyramis and Philips Tracemaster.

9. Advanced 4D Echo Visualization

The application of 4D ultrasound techniques to 3D ultrasound data enables the evaluation of complex anatomical structures like valves and wall motion in a completely new non-invasive way. 4D imaging improves upon invasive procedures because it offers high-quality resolution and functionality, it is less costly, and it requires no patient recovery time. 4D imaging provides immediate results, which speeds the care of the patient.

Merge Cardio tightly integrates with state of the art 4D ultrasound applications from TomTec Imaging Systems which accepts data from all brands of echo carts. By virtue of this integration Merge Cardio provides a single visualization platform for viewing all non-invasive cardiology data along with a patient's additional imaging data and clinical reports. The available 4D techniques include:

- User defined templates designed to match your workflow with automatic population of known data fields – which reduces errors and eliminates duplicate data entry.
- Review and Measure 3D echo data.
- 3D Quantification of LV Function and Dyssynchrony
- Quantification of RV Volumes and Function
- Mitral Valve Assessment through 3D Ultrasound
- 2D-Based Quantification of Myocardial Function

10. Advanced Coronary CTA Analysis

With a tight integration with tools from TeraRecon, Merge Cardio provides cardiologists easy access to an expanded suite of advanced clinical visualization tools. Physicians can perform complex analysis of clinical imaging data in real time within the Merge Cardio workstation, eliminating the need for a dedicated stand-alone workstation. Cardiologist workflow is optimized and quality of patient care is enhanced with "one click" access to CT angiography. Key features include:

- Consolidation of clinical applications on a single workstation in the reading room
- Automatic transfer of study identifiers to begin 3D post processing "in context" eliminates error prone entering of information in two places.
- Accept and display DICOM CT data from any brand CT system for analysis eliminating incompatibilities and interface issues.

11. Advanced Nuclear Medicine Visualization

Nuclear cardiology is a well established and vitally important medical specialty targeting a major public health problem—coronary artery disease. Through a partnership with Invia Medical Imaging, Merge Cardio provides key nuclear medicine functionality on coronary blood flow and cardiac function while reducing the use of costly invasive methods and the likelihood of unnecessary interventional procedures in patients.

By integrating advanced nuclear medicine functionality on a single workstation, Merge Cardio streamlines cardiology workflow by providing a single place to review a patient's non-invasive and invasive procedures. With single click access to nuclear medicine perfusion, function, and reporting Merge Cardio offers improved accuracy and quality in less time.

About Merge Healthcare

Merge Healthcare is the leading provider of enterprise imaging and interoperability solutions. Merge solutions facilitate the sharing of images to create a more effective and efficient electronic healthcare experience for patients and physicians. Merge provides enterprise imaging solutions for radiology, cardiology and orthopaedics; a suite of products for clinical trials; software for financial and pre-surgical management, and applications that fuel the largest modality vendors in the world. Merge's products have been used by healthcare providers, vendors and researchers worldwide to improve patient care for more than 20 years. Additional information can be found at www.merge.com.

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