

The Role of Integration in Radiology: Moving from Necessity to Leverage

Larchmont Imaging Associates

Insights with Robert Walsh, Director of Professional Services, DLC Technology Solutions, Inc.

Biography

Robert Walsh, Director of Professional Services for DLC Technology Solutions, Inc., has been actively involved with the integration strategy for Larchmont Imaging throughout the last decade. He has been instrumental in establishing the framework and infrastructure needed to support the workflow currently in place.

Market Background

Imaging centers are under increasing pressure to exchange data. Internal systems, such as the RIS, PACS and billing must be able to communicate and exchange patient data with one another to optimize the patient experience. External systems and groups, such as HIEs, referring physicians, hospitals, clinics and labs must also have access to the images and reports generated by the radiologist and radiology technicians. Not exchanging data effectively and efficiently risks business relationships in addition to the most important element of all, patient safety.

Implementing and managing the various applications can be complicated. Working within the traditional information sharing model using point-to-point interfaces would require a significant amount of time and financial commitment. However, having a modern integration solution gives you the flexibility to manage the interfaces for the integration projects while creating leverage to realize even higher value initiatives and goals, using less time and saving money.

For the radiology industry in particular, having a competitive workflow is critical for business success. Despite the competition among machine and application offerings, the competition for referrals and patients from customer service has greatly increased in the past decade. Wait times, turnaround times and patient report access are some of the key factors radiology facilities leverage to gain business, referrals and ultimately improve their bottom line.

Radiology practices that have realized the benefits of leveraging an integrated environment are able to process patient information faster, and with fewer complications, than practices that have maintained a traditional, manual information sharing strategy. Leveraging an integrated environment is a strategic differentiator and is being taken advantage of by leaders in the radiology industry.

Background

Insights with Robert Walsh, Director of Professional Services, DLC Technology Solutions, Inc.

Larchmont Imaging Associates, located in Hainesport, New Jersey, is an imaging center with four facilities serving Burlington County and its surrounding communities.

Approximately, three years ago, we began the initial stages of our integration environment evaluation. We were replacing the Sage Medical Manager RIS with Sage Intergy RIS in order to improve workflow and accommodate more recent data sharing expectations of the industry.

It is not uncommon for a health care facility to reevaluate their integration strategy when making a major upgrade or replacement. Our initial integration challenges required a solution that would integrate the new Sage Intergy RIS with our PACS and external mammography tracking system. Additionally, the solution would be required to identify and differentiate results and demographics between the Virtua Memorial Hospital and Larchmont Imaging Associates workflows.

Corepoint Integration Engine was initially selected to manage our new integration environment. It was then we realized there were many more initiatives coming our way, such as HIE connectivity, that we needed to act upon. It was at this pivotal point we really realized the power of a robust integration platform and how it could be used to enable our strategic and operational plans.

Following the implementation and use of Corepoint Integration Engine, we discovered an opportunity to leverage the integration infrastructure to meet new demands and challenges productively and feasibly. We were able to leverage participation in the local health information exchange, or HIE, integration with a voice recognition dictation system, integration with an outside coding company for billing and integration for the billing of services provided to the local hospital.

Initial Integration Challenges Solved

Outlined below are some of the projects which we scoped for in our initial integration engine evaluation. Corepoint Integration Engine was chosen to help establish the workflow between our RIS system and the HIS system at a local hospital, and the time we saved using Corepoint Integration Engine was incomparable to the time we would have spent establishing these interfaces in our previous method. The freed time allowed us the opportunity to focus on more complex interfaces as well the ability to focus on the analytics of the connections.

Initial Problem Solving Opportunity

Applications involved:

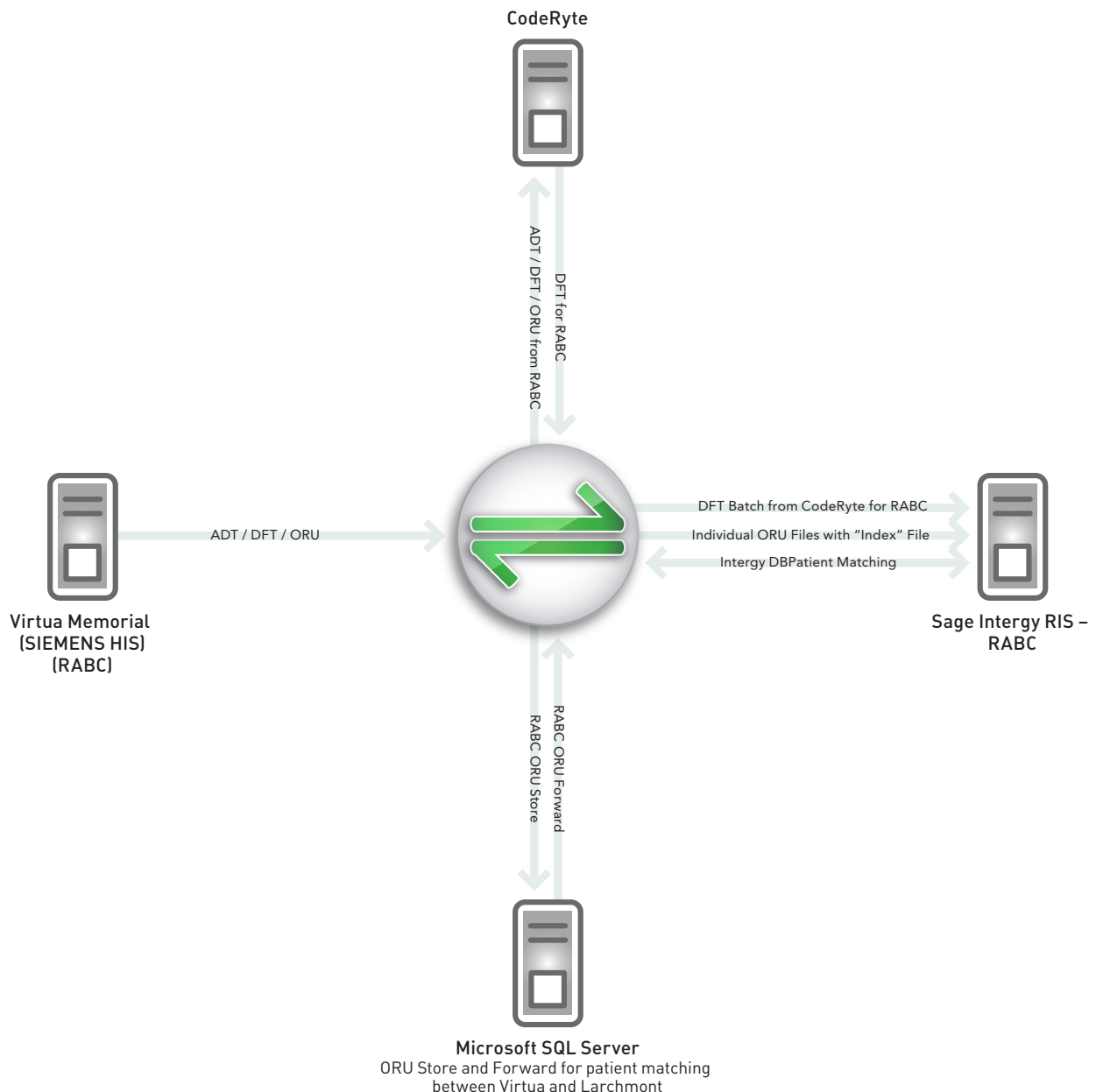
- Sage Intergy RIS and CodeRyte - RABC

Interoperability challenge:

- Workflow required Intergy RIS to use file based methodology for results and DFT imports

Solution:

- Corepoint Integration Engine was used to build DFT batch files from CodeRyte for the RIS and also used to build individual ORU files with a master index file for the RIS' results import process



Initial Problem Solving Opportunity

Applications involved:

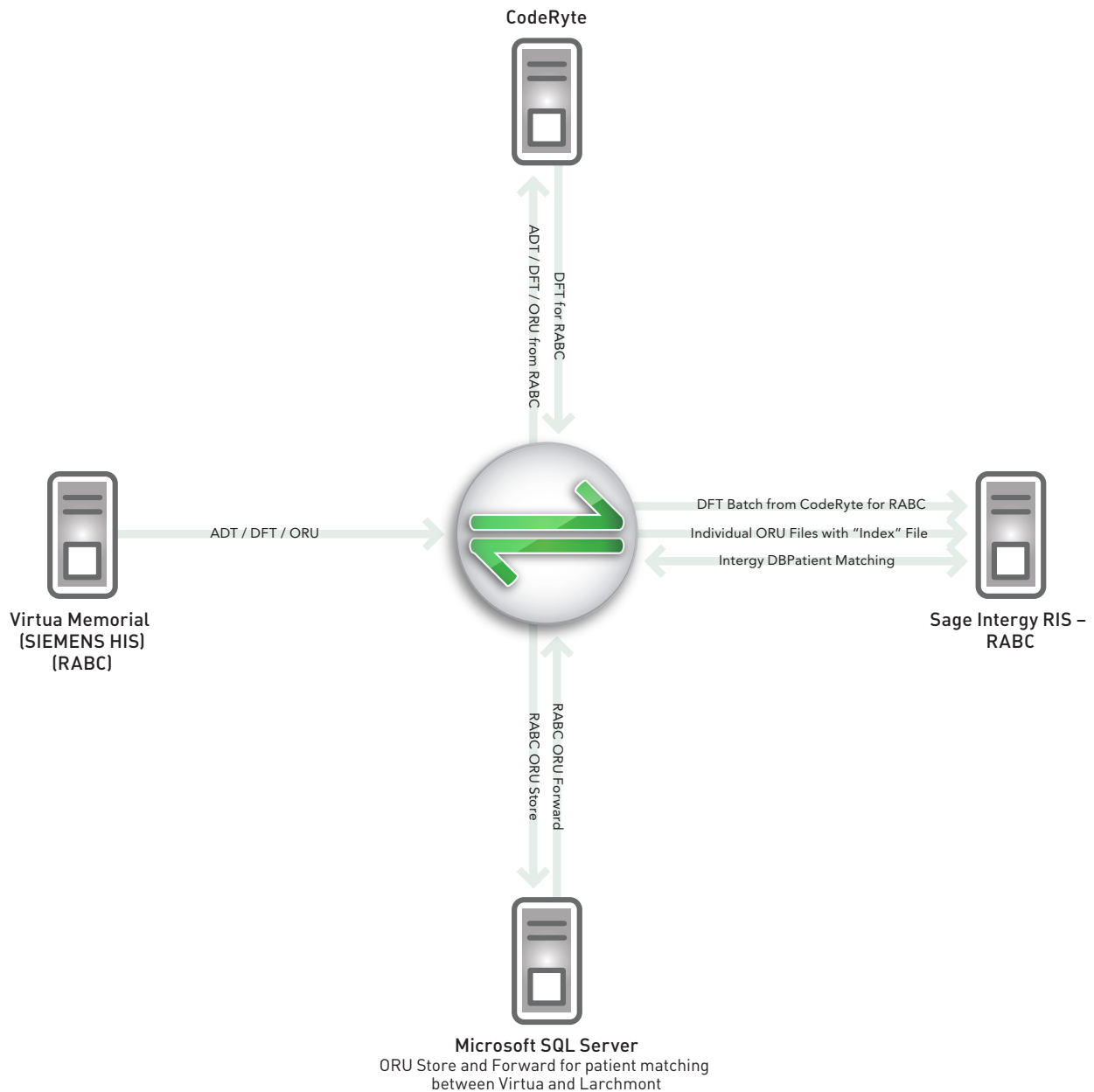
- Siemens HIS and Sage Intergy RIS – RABC

Interoperability Challenge:

- ADT, DFT and ORU messages needed from Virtua Memorial to Sage Intergy RIS - RABC

Solution:

- Established interface from Virtua to Corepoint Integration Engine and an additional interface from Corepoint Integration Engine to Sage Intergy. Corepoint Integration Engine used to perform gap analysis between Siemens and Intergy message structures and resolve mapping and formatting issues



Initial Problem Solving Opportunity

Applications involved:

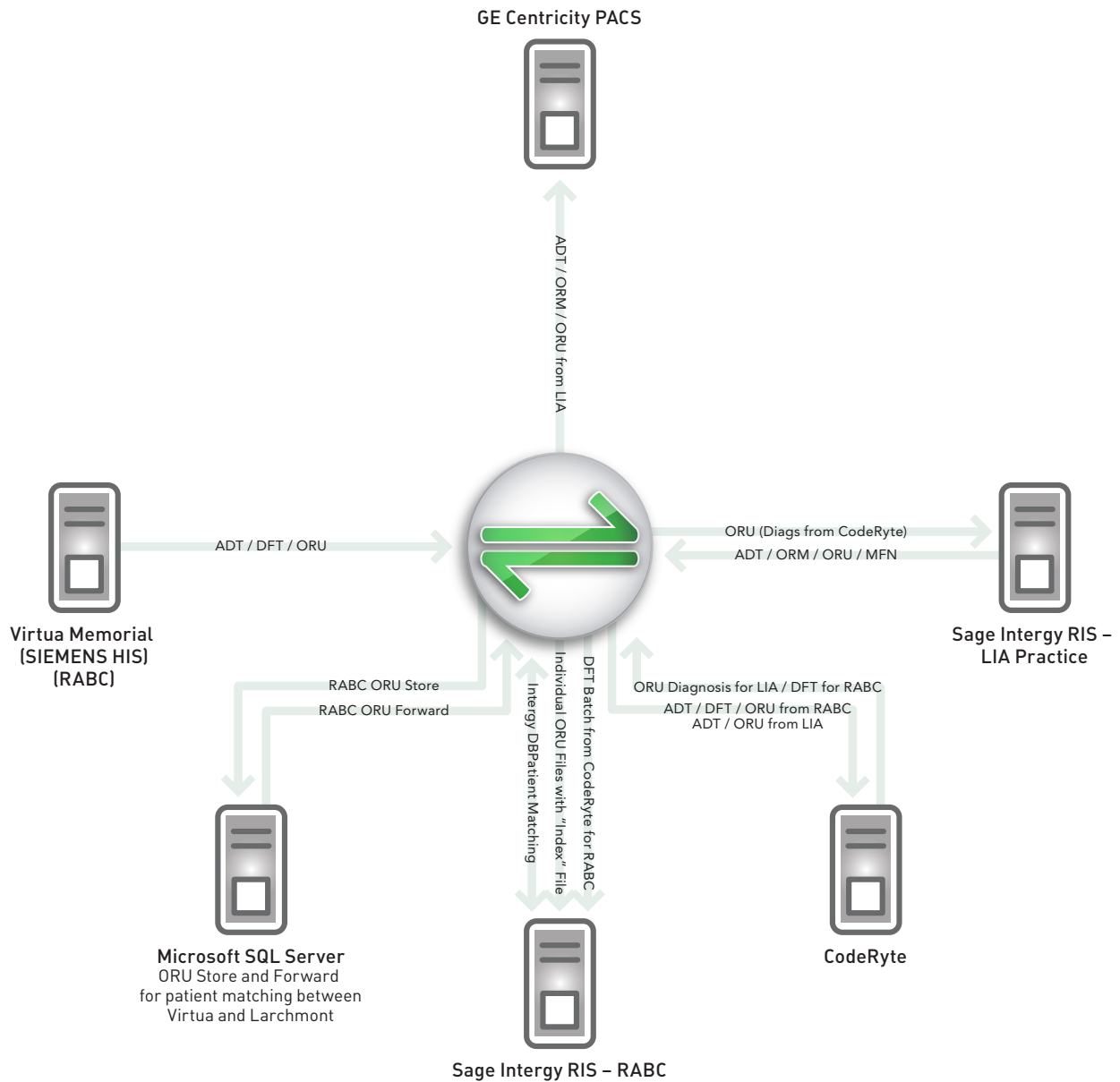
- Sage Intergy RIS and Centricity PACS

Interoperability Challenge:

- Multiple applications required the same data that was already being exported from the RIS
- With the possibility of implementing a voice recognition system for dictation, getting orders and results into the PACS system as quickly as possible was a priority

Solution:

- Integration engine was used to filter, modify, format and route to the appropriate applications according to the contents of each message



Leveraged Problem Solving Opportunity

Applications involved:

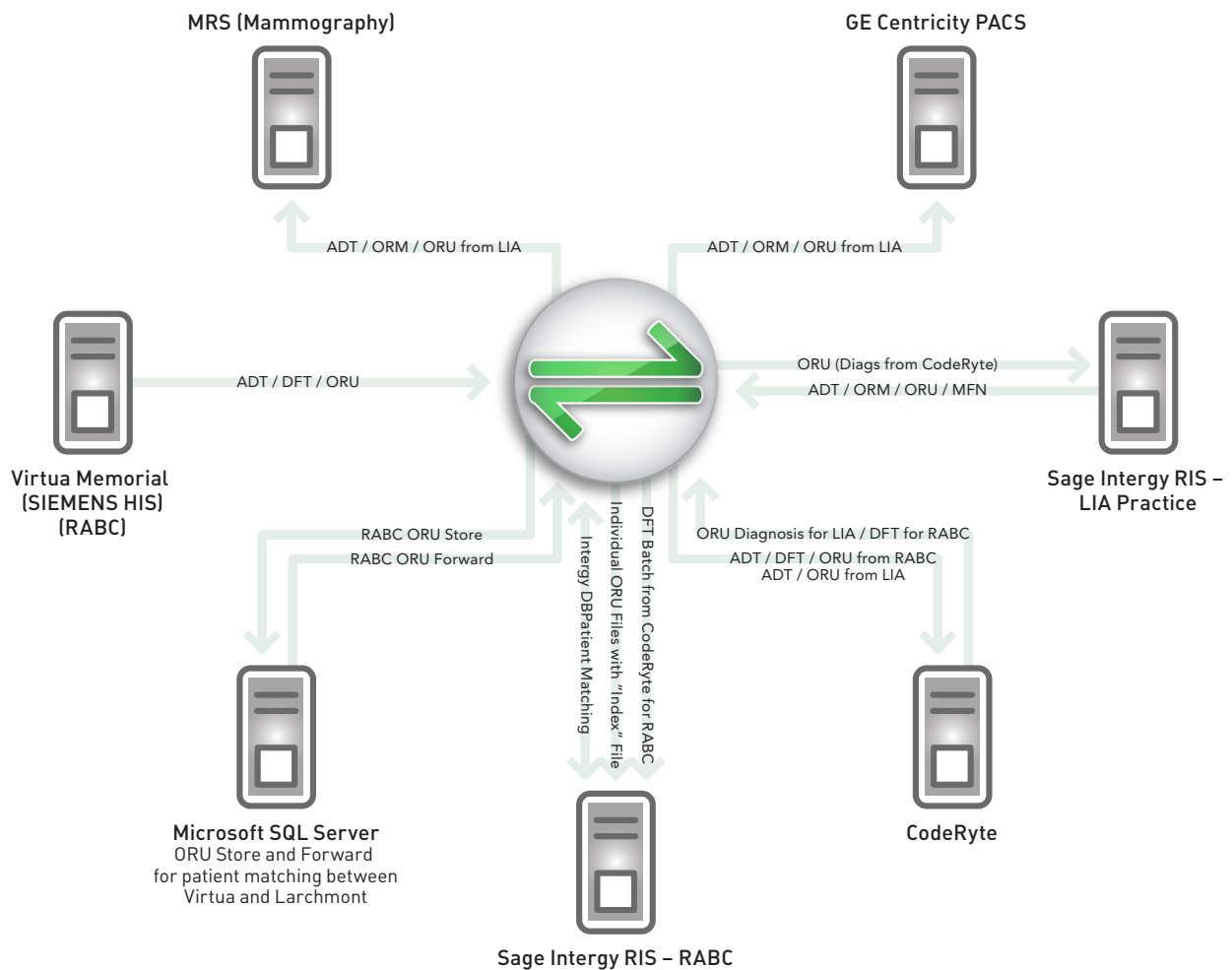
- MRS (Mammography Reporting System)

Interoperability Challenge:

- Needed to implement an external system to track mammography patient results notification for legal reasons
- Wanted to make the system as automated as possible to reduce staff requirements and keying errors for manually entered data

Solution:

- Established interface to MRS in order to automatically provide demographic information and orders to that application
- Provide observation and recommendation data by "reading" the reports being sent to MRS and creating custom message segments to populate the correct fields within MRS



Interoperability Challenges Solved – Leveraging Corepoint Integration Engine

Using Corepoint Integration Engine, we were able to reduce the amount of time we spent on workflow projects, in addition to improving the quality of the patient and physician experience with faster turnaround and wait times. As we began to realize the benefits of the data sharing capabilities with Corepoint Integration Engine, other strategic opportunities were considered. The following outlines the additional and unanticipated projects we were able to leverage by using our interoperability platform.

Leveraged Problem Solving Opportunity

Applications involved:

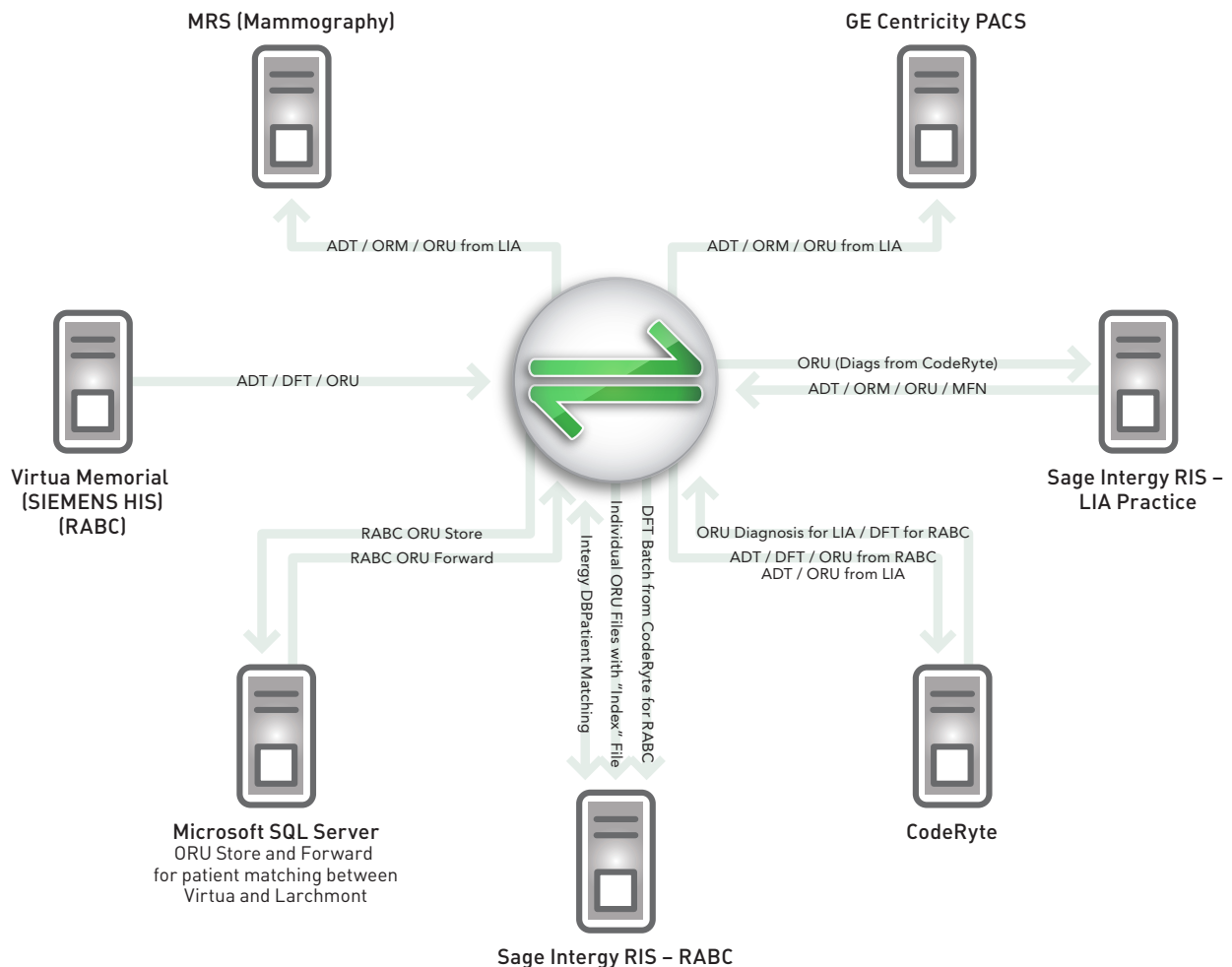
- Siemens HIS, Sage Intergy RIS – RABC and CodeRyte - RABC

Interoperability Challenge:

- Virtua Memorial patient results were often sent over prior to demographic information being sent. Without demographics in the RIS, the result had no patient to match against and could not be processed appropriately
- In cases where the patient did exist, the patient ID did not correlate to the patient ID in the RIS

Solution:

- Workflow was devised in which the hospital preceded each result with demographics and for each result received by Corepoint Integration Engine, the Sage patient tables were queried for a matching patient. If a matching patient was found, the translation was made and result was processed to CodeRyte. If a matching patient was not found, the result was stored in an order holding database table that would be polled periodically until a matching patient ID was found



Leveraged Problem Solving Opportunity

Applications involved:

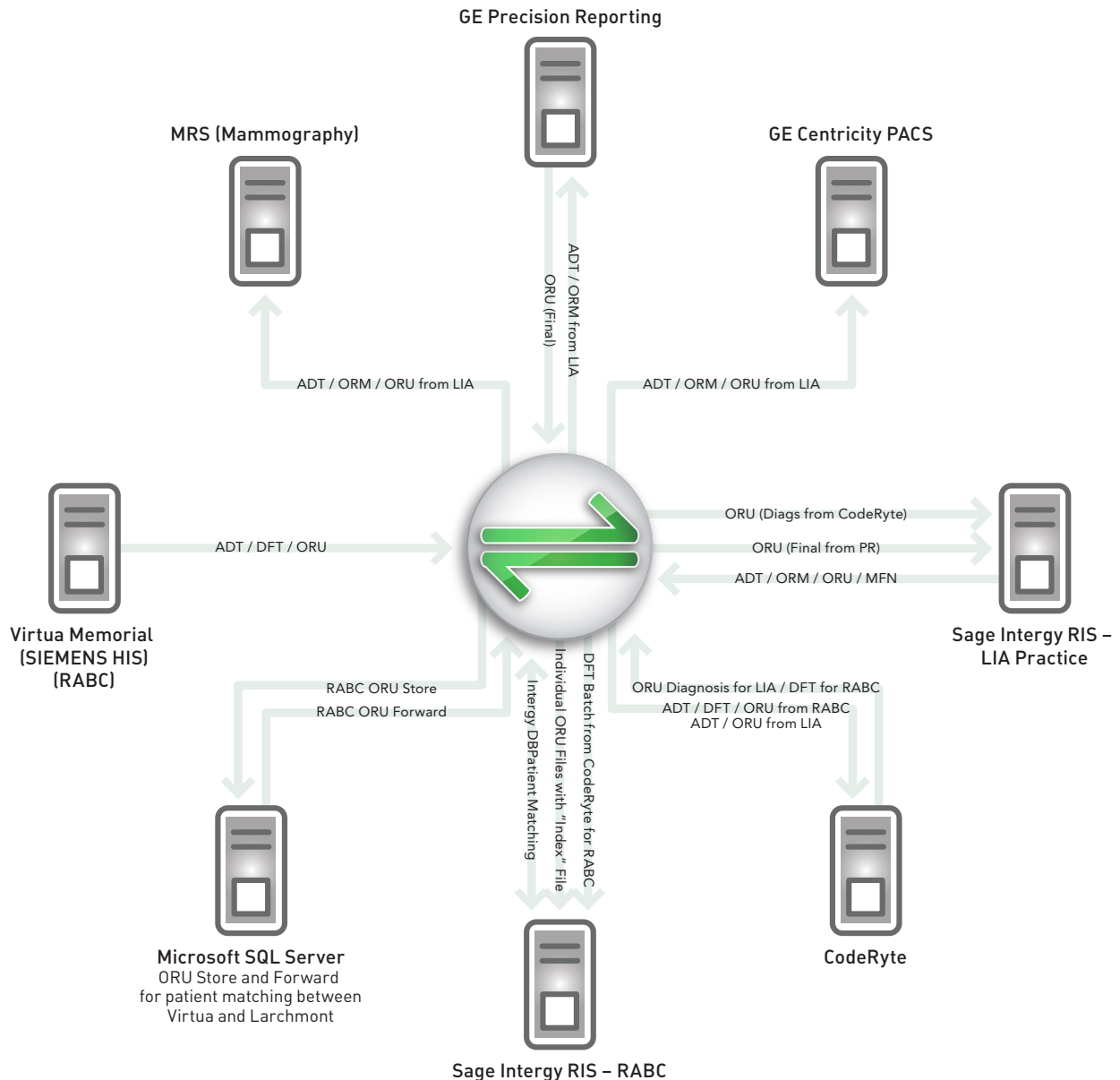
- GE Precision Reporting

Interoperability Challenge:

- Wanted to implement a new voice recognition dictation system to replace an outdated digital dictation system to allow for faster report turn around times
- Needed to provide demographic and order data to Precision Reporting and provide completed results back to Intergy RIS – LIA
- Electronic signature verbiage needed to be added to the results utilizing data provided within the HL7 headers from Precision Reporting

Solution:

- Established bi-direction interface to allow for data exchange between systems
- Corepoint Integration Engine used to authorize results by adding content to result message. This was not a feature of the upstream application



Leveraged Problem Solving Opportunity

Applications involved:

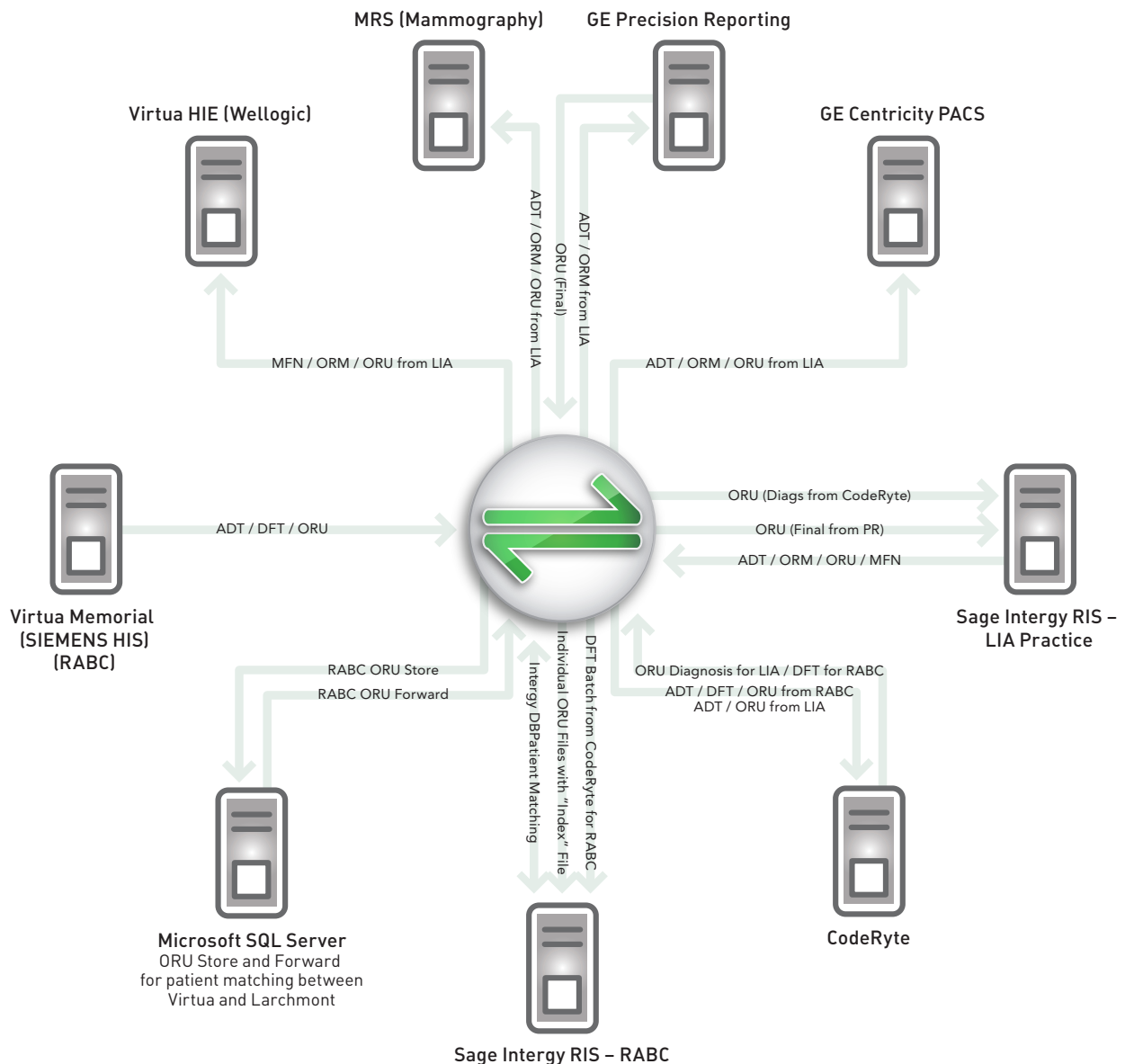
- HIE (Wellogic)

Interoperability Challenge:

- The local hospital was building an area HIE and wanted our orders and reports to be available to their participants
- We needed to provide a list of referring physicians so that a table could be built within the HIE to facilitate result routing to participating practices that had direct interfaces from the HIE into their EMR system
- After providing a referring provider backlog, the HIE needed to be kept up to date as referring physicians and groups were added to the Intergy RIS - LIA

Solution:

- An interface was built to send order messages and result messages to the HIE
- Used Corepoint Integration Engine to pass MFN messages to update the referring provider table as necessary



Leveraged Problem Solving Opportunity

Applications involved:

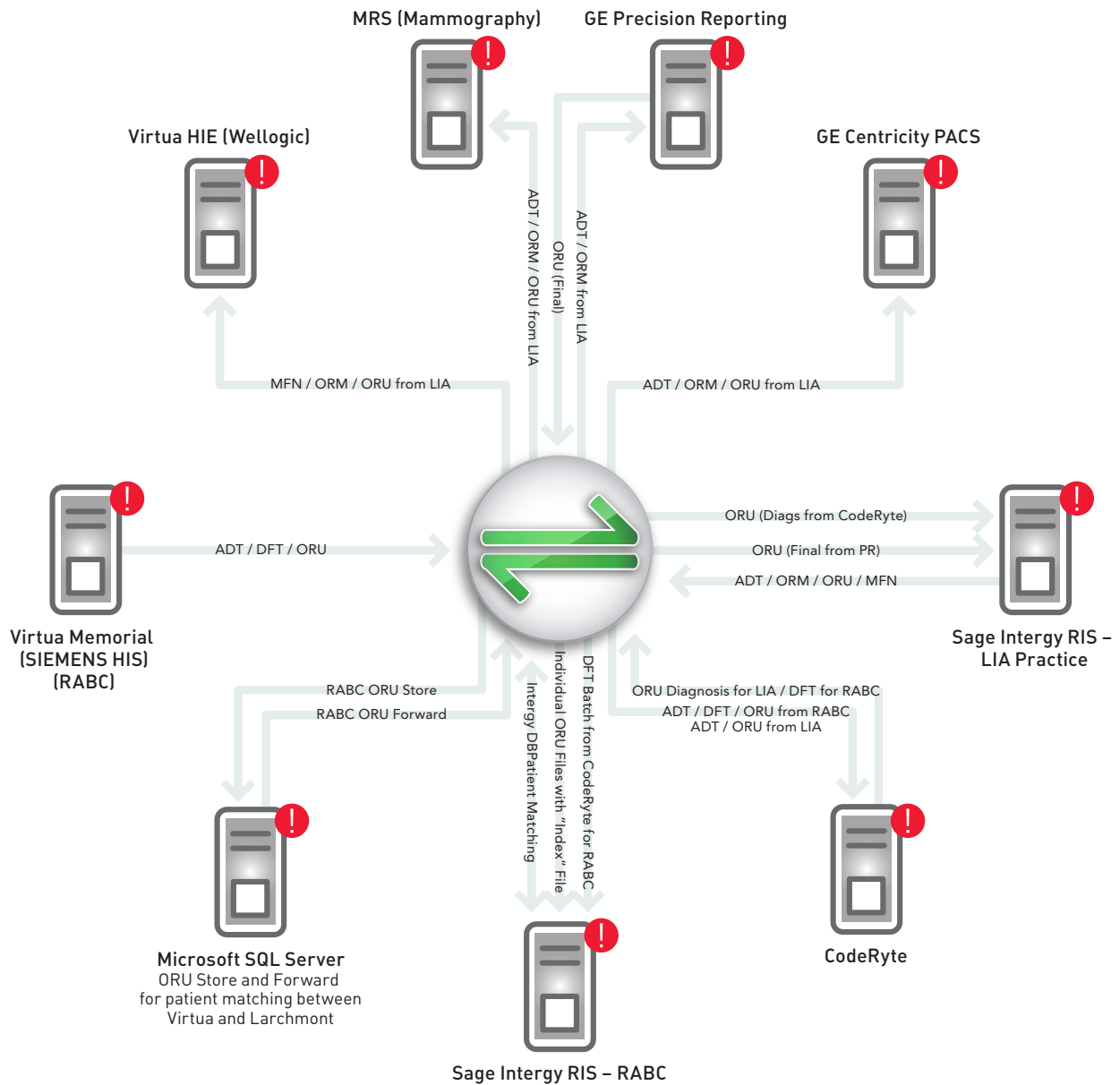
- Corepoint Integration Engine – Administration Console

Interoperability Challenge:

- Alerts needed

Solution:

- Interfaces operate continuously; however, the IT department is only staffed from 8 a.m. to 5 p.m. Alerting allows the IT department to ensure interfaces stay up by notifying the on-call person when there is a problem with the interface engine during non-staffed hours



Conclusion

As you can see, IT infrastructure is really a strategic platform. The projects we were able to complete, in the amount of time we spent, would not even have been considered if it weren't for the robust and flexible solutions Corepoint Health was able to offer. As we worked to implement interfaces between different systems we ran into many issues where different vendors implemented the HL7 standard in different ways. During our implementation the Corepoint Integration Engine was always able to resolve these differences and get the systems communicating. By leveraging a modern interface engine, it has contributed to the success of the radiology practice, and it will provide a foundation for future initiatives as accountable care organizations and health information exchanges gain popularity.

Using an integration engine allows you to leverage your application environment for anticipated and unanticipated integration initiatives that affect not only patient care, but business relationships and ultimately the bottom line. In today's health care marketplace, radiology practices are more than referral based clinics; they are a business that provides some of the vital applications and solutions anticipated for the future of health care. In that role, integration and interoperability are something every radiology facility should be utilizing, adding the flexibility and adaptability to address the rapidly changing requirements and initiatives within the healthcare marketplace.



Corepoint Integration Engine – Ranked #1 by KLAS for 2009 & 2010

Interface Engines Market Segment, *Top 20*
*Best in KLAS Awards: Software &
Professional Services Report.*

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