

# Data Exchange and Integration in South Carolina – A Rhapsody Solution

J. Kondamuri<sup>1</sup>, J. Sinclair<sup>2</sup>, G. Fowler<sup>2</sup>, R. Krause<sup>2</sup>

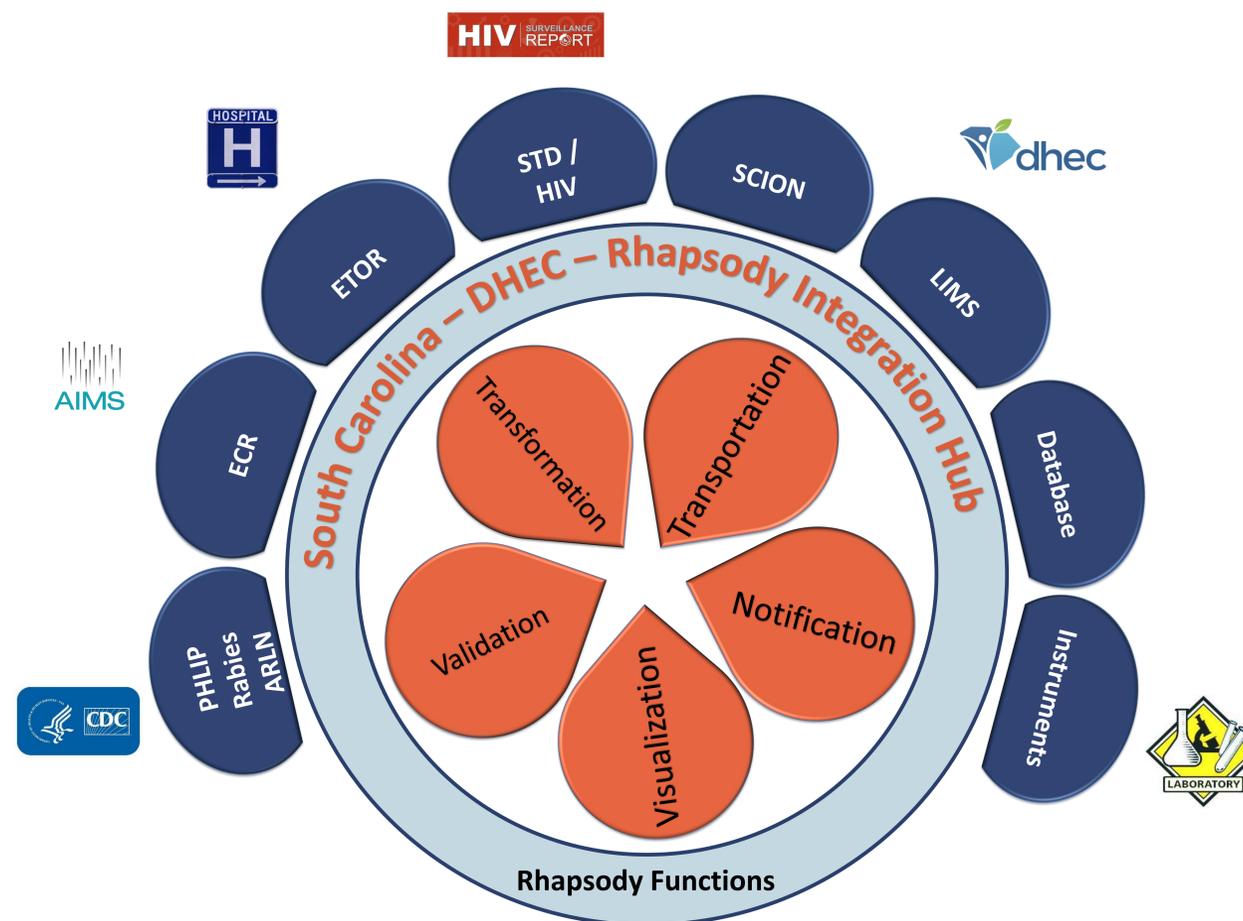
Lyniate’s Rhapsody integration engine serves as a central enterprise integration hub for the South Carolina Department of Health and Environmental Control (DHEC) to support all aspects of public health data exchange with industry-standard security. Use cases include disease surveillance activities and reporting, compliance reporting, internal integrations with laboratory instruments and the laboratory information management systems (LIMS), and external integrations with various partners for data exchange. With an array of built-in components that support disparate functions, Rhapsody enables electronic communication between multiple systems and partners with varying degrees of capabilities.

## A Centralized Approach

The ability to share data across systems and partners is a fundamental need for all public health programs. Public health agencies need applications and systems that are scalable and robust and that can support interoperability across systems. Existing legacy applications that have been built over time on an ad-hoc basis are often neither scalable nor robust, and maintenance of these legacy applications is highly expensive and resource-intensive.

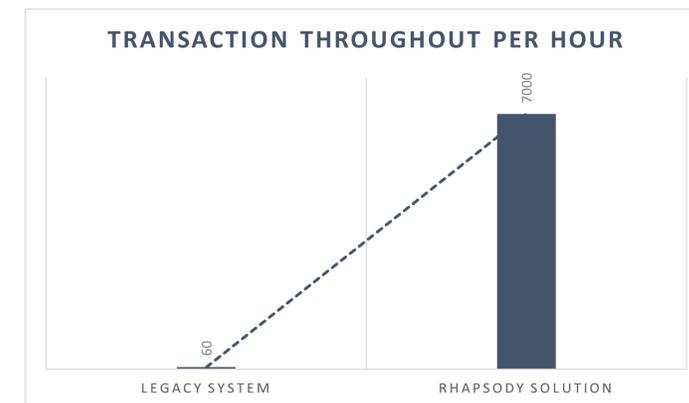
J Michael Consulting (JMC), with support from the DHEC system integration team, is replacing DHEC’s legacy applications with Rhapsody integration engine functionality, thus improving the quality and speed of data exchange. Rhapsody’s robust built-in components support connectivity with the entire spectrum of network protocols, while providing user friendly configurations, and customizations to perform various functions like validations, transformations, transportation, notifications, visualizations, archiving, and routing that are essential in public health data exchange.

Interface	Rhapsody Function
PHLIP / Rabies / ARLN	Receives results from the DHEC LIMS in XML format, transforms them to standardized HL7 messages, and transports them to CDC via PHINMS
eCR	Receives electronic case reporting data from AIMS using S3 transport and transforms them to HTML format for the surveillance systems to consume
ETOR	Facilitates electronic transfer of Test Orders and Results for standard HL7 messaging and structured .csv files via transport methods (3-level secured webservices, SFTP and VPN) per requirements of different ETOR Projects
STD / HIV / SCION	Receives ELR external entities (hospitals, labs, providers etc.) and the DHEC LIMS, identifies the disease conditions, and routes the results to corresponding surveillance systems
Instrument Interfaces	Processes test results from various laboratory instruments, from different lab sections, in different formats, and transforms them to a format that the DHEC LIMS consumes
Automated Reports	Automatically generates aggregated management reports by querying the LIMS database at scheduled times and send the reports via email to LIMS administrators



JMC/DHEC Rhapsody Integration Projects in 2022

**Adaptability, reusability, and scalability** are key tenets of our Rhapsody solutions - from the initial technical designs to sustainable support tools. Using Rhapsody solutions for various projects at DHEC improved reliability, stability, and speed in implementing integration projects with both internal systems and external partners. This approach has streamlined issue tracking and remediation and significantly increased transaction throughput per hour.



The throughput of transactions per hour increased from 60 to 7000.

1. J Michael Consulting, Roswell, Georgia / <http://j michael-consulting.com>  
JMC specializes in laboratory informatics, surveillance informatics, data standards and interoperability, and project and program management. For more information, and to learn more about JMC’s service offerings, email [support@j michael-consulting.com](mailto:support@j michael-consulting.com).

- GSA provides the following services under the GSA Schedule:
- SIN 611420 Training Courses for Information Technology
  - SIN 541515 Information Technology Professional Services
  - SIN 54151HEAL Health Information Technology Services

LEARN MORE



2. South Carolina Department of Health and Environmental Control  
<https://scdhec.gov/>

