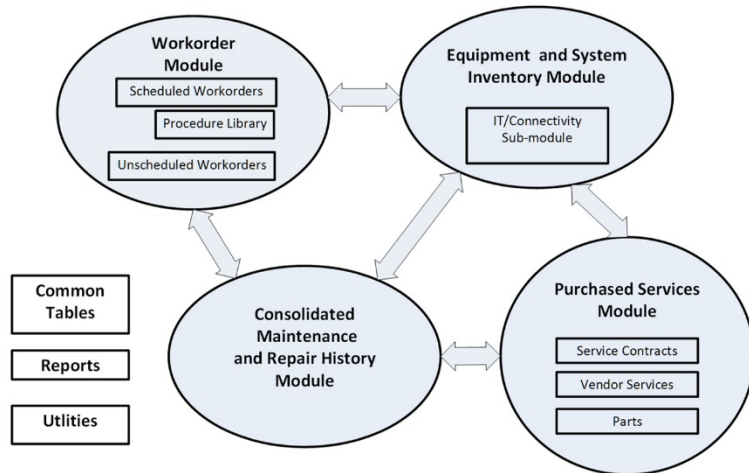


Clinical Engineering Project

DUKE HEALTH CMMS SELECTION

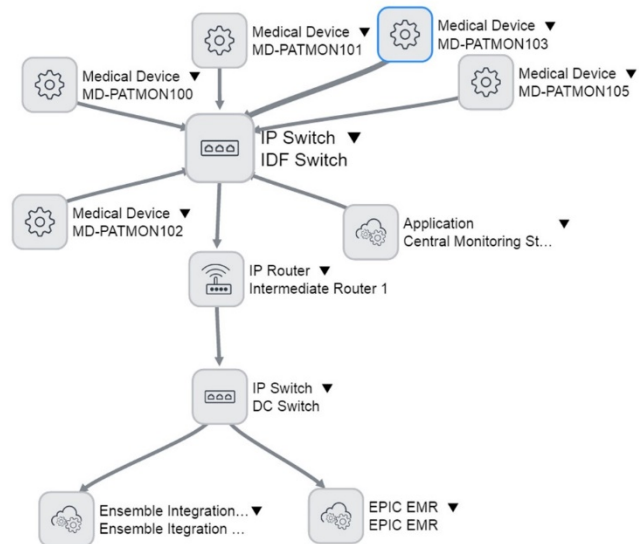
By Matthew F. Baretich, P.E., Ph.D.

The Clinical Engineering department of the Duke University Health System is responsible for managing the medical equipment in three hospitals, including the thousand-bed Duke University Medical Center in Raleigh, North Carolina. An essential tool for carrying out this responsibility is a comprehensive Computerized Maintenance Management System (CMMS).



At the heart of a basic CMMS is an inventory of medical equipment and systems in the organization. A key CMMS function CMMS is scheduling for planned maintenance (PM) activities. The CMMS is also the repository for the cost of all maintenance, whether provided by employees of the organization, by external service providers, or through service contracts.

Beyond the basics, CMMS programs are distinguished by the level of their support for data analytics and effective departmental management. And each clinical engineering department has unique requirements that influence which CMMS product is most appropriate. The Duke CE department is part of Information Technology and effective CE-IT collaboration is essential. For example, it is vital to seamlessly link Clinical Engineering's inventory of medical equipment with Information Technology's network infrastructure documentation contained in a Change Management Database.



Duke's clinical engineering department was a long-term user of Accruent's TMS product but, for a variety of reasons, wanted to investigate other CMMS products that might better match its evolving requirements. In close cooperation with Duke CE and IT personnel, Baretich Engineering designed and carried out a project to identify a replacement CMMS.

The project included the following steps:

1. Develop a **Requirements Document** that specified the required functionality.
2. Develop a **Request for Information** document, evaluate written responses, and conduct online demonstrations by CMMS vendors.
3. Develop a detailed **Request for Proposal** document, evaluate and score written responses, conduct multiple online demonstrations, and check references provided by CMMS vendors.
4. Carry out an in-depth review of CMMS vendor finalists, including focused demonstrations, additional reference checking, and cost analyses.
5. Recommend a replacement CMMS product.

Vendor	Product	Type	RFI Conclusion
Accruent	TMS	Conventional	Selected for RFP
EQ2	HEMS	Conventional	Selected for RFP
Phoenix Data Systems	AIMS	Conventional	Less capable
Connectiv	Connectiv	ServiceNow-based	Selected for RFP
Nuvolo	Nuvolo	ServiceNow-based	Selected for RFP

Vendor	Product	RFP Conclusion
Accruent	TMS	Not selected for additional evaluation
EQ2	HEMS	<u>Selected</u> for additional evaluation
Connectiv	Connectiv	<u>Selected</u> for additional evaluation
Nuvolo	Nuvolo	Not selected for additional evaluation

One of the key factors we addressed was the distinction between “conventional” CMMS products and two relatively new CMMS products based on the ServiceNow platform used by many healthcare IT programs, including Duke’s. The two CMMS vendor finalists included one conventional product and one ServiceNow-based product.

References

Computerized Maintenance Management Systems for Healthcare Technology Management). Ted Cohen and Matt Baretich. 2017. Association for the Advancement of Medical Instrumentation.

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