

# Application Portfolio Management:

## *Optimizing Information Technology Assets*

*An emids+encore Point of View*

*By John Vitalis MPA, Pete Shelkin MSHA, PMP, CISSP,  
and Randy Thomas, FHIMSS*

*January 2018*

### AN emids+encore POINT OF VIEW

As healthcare providers face MACRA/MIPS<sup>1</sup>, unknown changes to the Affordable Care Act (ACA), and continued downward pressure on reimbursement, they are trying to determine how these will impact their financial health. As a result, there is increasing focus on supporting value-based care while managing cost. In addition, health care organizations have invested billions of dollars since 2009 to acquire, adopt, and optimize certified electronic health record technology (CEHRT). CEHRT projects stretched capital and operating budgets. In many cases, other capital investments were deferred, such as facility improvements or new medical technology. As a consequence, chief information officers (CIOs) now face increased pressure to examine their IT budgets and look for opportunities to consolidate and reduce operating expenditures.





## Effective lifecycle

management requires establishment of a program to systematically review the portfolio.

Responsible management of these assets can be likened to managing an investment portfolio. Goals must be set and periodic actions taken to balance the portfolio, in order to maintain alignment with those goals and maximize the return on investment. Effective lifecycle management requires establishment of a program to systematically review the portfolio and dispose of (retire) those assets (investments) that are no longer providing an acceptable return.

## TAKING ACTION

emids+encore recommends a four-step process for application portfolio rationalization, as shown in Figure 2 and discussed below. Evaluation of the current application portfolio should include three major questions:

- *Big ticket items*: What are the high cost applications? Do they provide value? If not, can we remove them and who will be affected?
- *Low hanging fruit*: Where can we achieve immediate savings or operational improvements?
- *Problem children*: How do we make improvements (e.g., renegotiate overlapping or redundant contracts)?

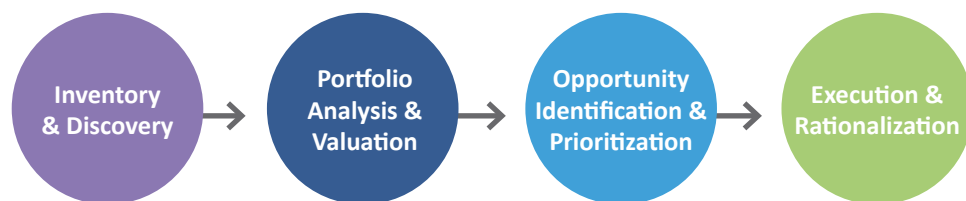


Figure 2: Application Portfolio Rationalization

### Inventory & Discovery

The first step in optimizing your portfolio is to develop a comprehensive inventory, if one does not already exist. The inventory should be focused on the technology itself, as decisions on the value each asset provides will impact subsequent decisions regarding staff and process. For many organizations, this will not be a small task, as “rogue” or “shadow” IT activities have often appeared. So ferreting it all out is a critical step. Automated tools can help with the initial inventory, but it will still require manual effort, as there is no substitute for the human intervention necessary to gather basic information such as business usage, application owner, and costs. Many organizations have reported hundreds and even well over one thousand applications.

Automated tools can help  
with the initial inventory.

The categories of information to be gathered and example attributes are shown in Figure 3. These include:

- *Demographics*: vendor name, application name, version, user departments
- *Technology platform*: servers, operating system, storage platform, database management system (DBMS)
- *Operational information*: availability requirements, release cycle, service desk ticket count
- *Contract information*: sign date, term, early termination fees, data extraction fees
- *Annual cost data*: annual maintenance, annual depreciation, remaining years
- *Interoperability*: core vendor (Y/N), number of interfaces, data standards
- *Business value*: strategic alignment, return on investment (ROI), patient facing, regulatory requirement

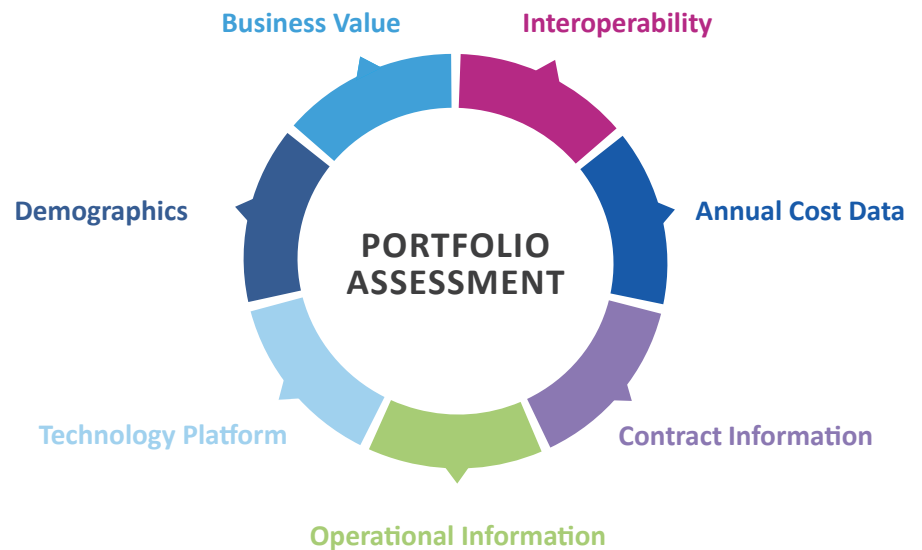


Figure 3: Application Portfolio Inventory

The inventory itself will bring value in terms of support for the *Maintain* dimension of the IT management framework. Examples include support for change management (e.g., users impacted by a planned downtime) and capital budgeting (e.g., upgrade schedule). Once the inventory is created, the next step is to determine or quantify the portfolio value.

Knowing and understanding your application portfolio is required in order to make rationalization decisions.

## PORTFOLIO ANALYSIS & VALUATION

Knowing and understanding your application portfolio (inventory and associated costs) is required in order to make rationalization decisions. But, there is much more to evaluate an application than cost. Does the application promote patient safety? Speed up collections? Have research applications? Improve provider productivity? Can the software be replaced by a core EHR solution and, if so, would you lose functionality? In other words, what is the business value of the application? Below is a framework that is useful to correlate cost and business value:

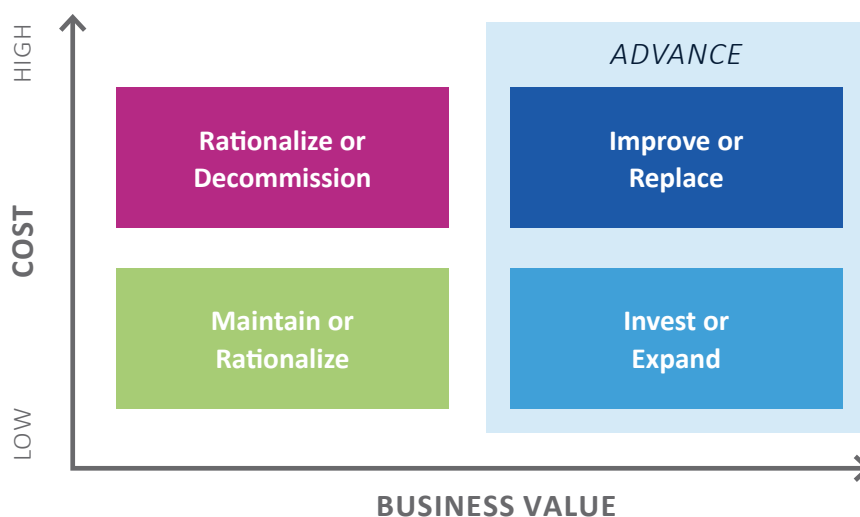


Figure 1: emids+encore IT Portfolio Management Framework

- *Advance* – applications and skill sets that either bring tangible value or are new and may require additional investment and attention. This could apply to a recently implemented EHR or population health management solution.
- *Maintain* – mature capabilities necessary to support the goals of the organization; these assets need to remain stable through appropriate upgrades and associated process validations.
- *Rationalize* – applications and processes that have been replaced by newer capabilities (i.e., functionality now provided by an integrated EHR platform); this is an opportunity to retire technology and reassign staff as a means to a more streamlined, efficient IT operation.

All applications should be categorized using this framework, as this will then guide what actions to take to streamline the portfolio.

*Once applications are placed within the portfolio assessment framework, you can see which applications are targets to advance, to maintain, or to decommission.*

## **Opportunity Identification & Prioritization**

Once the applications have been categorized, you can then identify the best places to focus attention. The value framework above correlates cost and business value – high value, low cost assets represent an opportunity for investment or expansion. Even high value, higher cost assets can be placed in the “advance” category. Assets that have a lower business value, yet are low cost are categorized as “maintain”. The organization may look for opportunities to achieve some benefits with those, such as renegotiation of support contracts. Those high cost assets with low business value are the prime candidates to “rationalize” or decommission; they need to make way for capabilities that better align with the overall goals of the organization. Additional evaluations may include cost or business value vs. technology platform (i.e., a high value application may be supported by an aging platform).

Once candidates for decommissioning are identified, you may need to gather additional attributes such as contract term, early termination penalties and costs associated with the replacement (if necessary) and decommissioning. This “preliminary” total cost of ownership (TCO) will help quantify the long term financial benefit and determine if there is a financial ROI. This TCO should include all costs associated with the replacement and decommissioning of the legacy application. These may include implementation of the replacement solution, migration and/or archival of legacy data, termination penalties, etc.

## **Execution & Rationalization**

Of course, the ultimate goal is to realize the financial and operational benefits of the application portfolio management initiative. Decommissioning an application should be treated with the same planning, diligence, and commitment as implementation of new solutions. There are four major work streams associated with decommissioning an application, as depicted in Figure 5. These are:

- End-user activities
- IT operations
- Legal and financial
- Data disposition

End users often believe they need legacy data for longer time periods or for more instant access than proves to be the case.

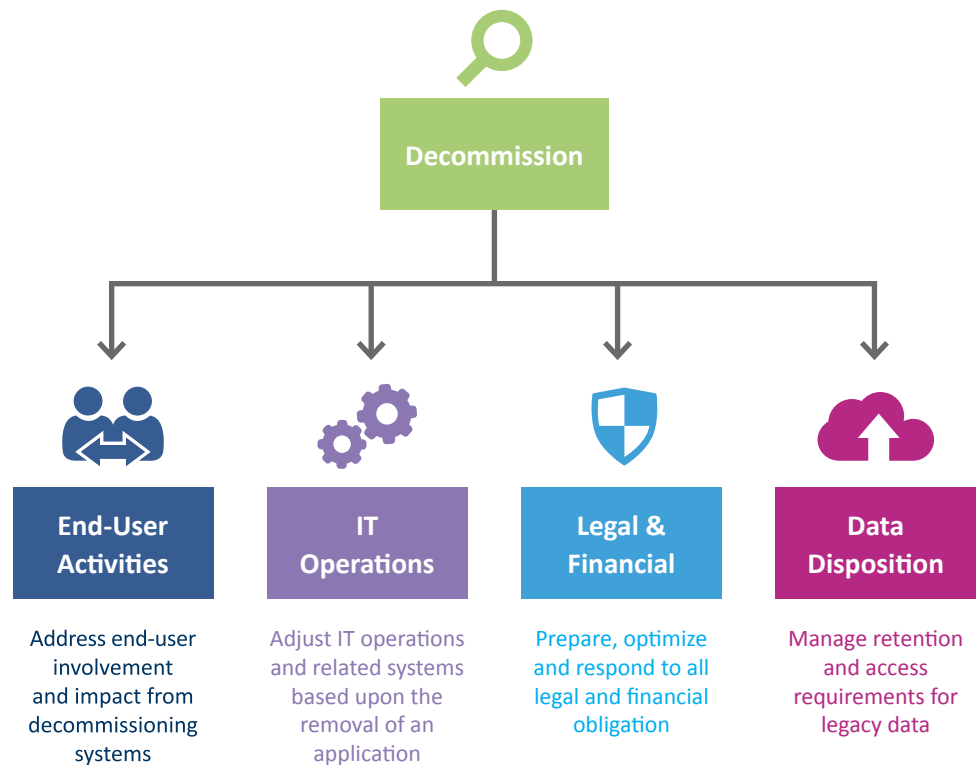


Figure 5: Application Decommissioning Work Streams

### End User Activities

If a legacy application is being replaced by a new application, such as an integrated EHR platform, your organization must design and implement training programs to ensure end users are well informed about how the new application works and how it changes their work flow. This training is less about which keys to press than about managing expectations and helping staff adjust to a new way of doing things. Key to success in this adjustment is clear and transparent communication targeted to specific stakeholders (e.g., nurses, physicians, patients, or management). End users should hear early and often about what change is coming, why it's a benefit to the organization, and how they will be supported through the transition. And, once the transition is complete, all proprietary legacy vendor materials should be collected from end users and either destroyed or returned to the vendor.

### Data Disposition

Most applications identified for retirement will have data that is important to the organization. You must determine how long the data must be retained, what type of access is required (e.g., frequent lookups by end users for a period of time, then after 12 months "colder" storage can be utilized), how the data should be migrated to its archival environment, and what the ultimate end point is for purging the data.



*In addition to the vendor contract itself, federal and state laws regulate how long data has to be stored.*

Rarely does one data archival approach cover all needs. Some data will require frequent lookups for an individual patient. Other data may need to be included in a repository to support analytics, measurement, and retrospective or trend reporting. Yet other data may be stored as static images. Timeliness of access is also a consideration. Sometimes users can wait 24-48 hours to view the data after requesting it; other data access (e.g., patient mammography) will need to be near instantaneous, at least for a period of time.

In addition, the data disposition plan should include ongoing monitoring for type and frequency of access. End users will often overestimate their need to access data from legacy systems. Over time, as access frequency declines, it may be possible to migrate the data once again to a “colder” (i.e., less expensive) archival environment – or perhaps purge it all together.

### *IT Operations*

While end users are being prepared for the switch to a new application, preparations must also occur behind the scenes to ensure an orderly approach to taking an application out of production. There are three key areas to plan for:

- *Legacy application itself* – in addition to decisions regarding data disposition, the application needs to be isolated prior to switching it off. It must also be removed from backup schedules, the application purged from routine backups, and the change management database (CMDB) must be updated to remove the retired components.
- *Related systems* – any interfaces supplying or receiving data from the retired application need to be discontinued and/or replaced. The disaster recovery plan should be updated to remove the application, and the contract modified with offsite recovery to remove it. Hardware should be decommissioned, removed and repurposed, as possible.
- *IT processes* – the retired application should be removed from monitoring software to prevent false alerts. The service desk needs to be informed that the application is no longer active and taught how to address end-user questions. The service desk will also need to close outstanding tickets and know how to access the archived data. Finally, any staff previously needed to support the retired application should be retrained and reassigned.

*Good portfolio  
management requires  
IT governance and  
supporting processes.*

### *Legal & Financial*

The vendor contract for the retired application must be reviewed for items such as early termination penalties, vendor obligations regarding termination (e.g., data conversion), and obligations on the part of the organization regarding return of proprietary materials. Sometimes, an application needs to be retained for a short time after the current contract end date. In this case, it may be necessary to negotiate a short-term contract extension. If other applications the vendor provides are being retained, the overall agreement may need to be renegotiated. There may also be considerations regarding third-party hosting. Once these issues are collaboratively resolved with each vendor, accounts payable should be notified regarding expected invoice changes (e.g., eliminating recurring monthly maintenance costs). Finally, the application should be removed from the depreciation schedule and the contract database updated.

## KEY STAKEHOLDERS

While the CIO has direct responsibility for management of the IT asset portfolio, every leader within the healthcare organization has a vested interest, either due to business need or in consideration of cost. According to an Oracle white paper, the cost for operating and managing applications makes up from 75 to 80 percent of the IT budget.<sup>4</sup> In a value-based, tight financial environment, every capital or expense dollar that goes to IT is a dollar that is not available for another purpose, such as medical technology, facility improvements, or clinical staffing. Therefore, all organization leadership are either direct stakeholders or stakeholders by proxy.

A formal IT governance structure and process is typically the optimal way to engage leaders from across the organization. Effective portfolio management requires multi-stakeholder input and support. In addition to the cost pressures that require close scrutiny of all spending, every operational area of the organization relies, to some extent, on IT-enabling capabilities – so decisions to decommission, downsize, or advance an application will affect some aspect of running the organization. In fact, IT governance should be involved in reviewing the categorization of the IT inventory as well as identifying and prioritizing which opportunities to act on. Complete transparency in the decision process coupled with clear communication is critical to successful IT portfolio management.

## CONCLUSION

The healthcare market is dynamic. Mergers and acquisitions can swell an IT portfolio. The demands of value-based care and changing regulations layer on new requirements that must be supported. Application portfolio management and decommissioning must be a core practice to ensure that IT is properly aligned with emerging value-based care initiatives and priorities. Healthcare organizations cannot afford to continue to add to their portfolio costs without diligent counter measures to balance cost and value.

The first pass through a programmatic approach to IT portfolio management will likely yield significant savings to the organization, as the bulk of redundant and under used applications are retired. Continuing the discipline through appropriate IT governance will ensure that IT dollars are effectively managed going forward. Consistent, transparent communication regarding the process for requesting new IT assets helps ensure the IT portfolio stays lean and focused on supporting the overall goals of the organization as efficiently as possible.

## REFERENCES

1. Medicare Access and CHIP Reauthorization Act of 2015 (MACRA)/Merit-based Incentive Payment System (MIPS)
2. Sachin Shah, Marc Lino and Vishy Padmanabhan. IT in M&A: Increasing the odds of a successful integration. [http://www.bain.com/Images/BAIN\\_BRIEF\\_IT\\_in\\_M%26A.pdf](http://www.bain.com/Images/BAIN_BRIEF_IT_in_M%26A.pdf).
3. “Benefits of Application Rationalization: Reduce Costs and Improve Service with a Systematic Approach”, An Oracle White Paper, April 2009
4. “Benefits of Application Rationalization: Reduce Costs and Improve Service with a Systematic Approach”, An Oracle White Paper, April 2009