

Informatica Application Retirement

Executive Insights for the Healthcare Industry CIO

This document contains Confidential, Proprietary and Trade Secret Information ("Confidential Information") of Informatica Corporation and may not be copied, distributed, duplicated, or otherwise reproduced in any manner without the prior written consent of Informatica.

While every attempt has been made to ensure that the information in this document is accurate and complete, some typographical errors or technical inaccuracies may exist. Informatica does not accept responsibility for any kind of loss resulting from the use of information contained in this document. The information contained in this document is subject to change without notice.

The incorporation of the product attributes discussed in these materials into any release or upgrade of any Informatica software product—as well as the timing of any such release or upgrade—is at the sole discretion of Informatica.

Protected by one or more of the following U.S. Patents: 6,032,158; 5,794,246; 6,014,670; 6,339,775; 6,044,374; 6,208,990; 6,208,990; 6,850,947; 6,895,471; or by the following pending U.S. Patents: 09/644,280; 10/966,046; 10/727,700.

This edition published September 2016

Table of Contents

Executive Summary	2
Application Retirement	3
Importance and Benefits of Retiring Applications	3
Risks of Not Implementing an Initiative	4
High Compression with Easy Access	4
Differences from Data Backup and Data Warehousing	5
Deploying an Application Retirement Initiative	6
Project Complexity and Requirements	6
Lifetime and Process Flow	6
Time to Value	7
Retiring Applications with Informatica Data Archive	8
Compliance with Data Retention and Privacy Regulations	8
Compliance Management with Archive Data Validation	8
Efficient Data Storage and Tiered Storage Strategies	8
Flexible, Easy, Secure Access to Retired Data	8
Conclusion	8

Executive Summary

Healthcare chief medical information officers (CMIOs) are in the midst of perhaps the most challenging period in the history of their industry. The organizations they lead are experiencing a near-perfect storm of changes: comprehensive healthcare reform under the Affordable Care Act; a series of compliance mandates, such as the move to ICD-10; and a torrid pace of advances in technology, including the wholesale move to mobile platforms and the promise of big data analytics to revolutionize care. Under these circumstances, healthcare IT leaders must carefully balance enhancements to existing systems, adoption of new technologies, and investments in operations and analytic solutions that increase the quality and value of healthcare.

The combined focus on clinical outcomes, cost reductions, and improving operational efficiencies must all be brought into balance. While CIOs simultaneously look to reduce costs and increase efficiency they must also fund investments in transformational projects and technologies. Successful CIOs will strike an artful balance between these competing demands for investments while finding savings and efficiencies from current operations.

This white paper advocates for application retirement as a strategic imperative to increase the efficiency and financial agility of healthcare organizations while also supporting the need to deliver improved patient outcomes. It discusses the benefits, requirements, process, and value of deploying an initiative to retire legacy application data. Finally, the paper explains how healthcare CIOs can use the application retirement capabilities of Informatica® Data Archive to quickly reduce costs, free up limited staff to work on high-value projects, and enhance their compliance with increasingly complex and onerous legal mandates.

Application Retirement

Application retirement is the process of shutting down an application that is no longer used in production and storing its data in a usable, on-line state. This enables reporting tools to access the data while reducing storage capacity requirements, eliminating the associated maintenance costs.

Importance and Benefits of Retiring Applications

Application retirement is the process of shutting down an application that is no longer used in production and storing its data in a usable, on-line state. This enables reporting and analytical tools to access the data while reducing storage capacity requirements, eliminating the associated maintenance costs.

Application retirement need not be disruptive. Rather it should be viewed as a key strategic enabler capable of saving significant costs and freeing funds for high-priority initiatives. Most IT organizations are overwhelmed with modernization, consolidation, M&A migration activities, and implementing systems to meet regulatory compliance. Preoccupation with business value leaves little time to inventory and assess the growing stockpile of old applications that are left dormant while implementing new ones and implementation of new EMR systems have compounded the cost and challenge of dealing with valuable legacy data .

Application retirement is an opportunity to rapidly reduce hardware, software and maintenance costs while maintaining focus on projects that deliver value in clinical outcomes, cost reductions, and operational efficiencies.

Perhaps most importantly, application retirement frees valuable resources – financial and staffing –to deal with the rapidly evolving architecture required to advance healthcare delivery. Old applications are often kept running only to provide access to their data—in many cases against undefined or unknown future access requirements. But production applications are the most costly setting in which to maintain data. Continuing to bear their expense merely to furnish access to data that might be needed in the future makes no operational or economic sense. Quite simply, organizations must retire outdated and unnecessary applications in order to streamline complex infrastructures and liberate data from the confines of proprietary legacy applications. Doing so also frees up scarce capital and operating funds that allow these organizations to invest in technology that will transform healthcare and stimulate progress.

The most cost-effective way to maintain data may actually be in an archive that enhances access to it while improving compliance. Application retirement moves the data to an on-line archive that maintains complete accessibility while shutting down the production application server and software. This move offers an excellent opportunity to recoup capital for investing in transformation.

The return on investment in application retirement often includes the hard costs associated with:

- Eliminating hardware and software maintenance contracts
- Reclaiming servers and storage
- Lowering power consumption
- Eliminating data center space and associated overhead
- Redeploying IT staff to more critical projects

As an example, by retiring its legacy applications, the largest pediatrics children's hospital in the United States expects to save \$1.8 million in hardware and software maintenance contracts annually. As a result of a migration to Epic, this hospital underwent an IT modernization program. It needed to reduce costs yet did not have the option to entirely shut down these applications; retaining patients' clinical data for compliance was a requirement. Retiring these applications was the ideal answer; the hospital was able to retire old applications running on HP Turbo Image, SQL Server, Oracle, and MUMPS.

Risks of Not Implementing an Initiative

Maintaining old applications requires that data be stored in legacy formats or on legacy platforms. It also calls for specialized skill sets to access and interpret the data. These requirements impart several risks:

- Lack of legacy application knowledge . The attrition of staff with the skill set to support and maintain legacy applications, including electronic health records and revenue management applications, means no longer being able to access the data on legacy platforms. This can lead to additional risks: exposure of private data and response delays to HIM requests.
- Exposure of sensitive, private data . With limited IT staff who can properly manage and maintain legacy applications, there is a high risk that data in those systems will be exposed to unauthorized users, leading to a data breach or failure to comply to regulatory standards such as HIPPA. This in turn may lead to significant financial penalties and unquantifiable damage to the organization's reputation and patient trust.

Potential fines from delayed responses to e-discovery . Legacy data is located in numerous applications, some of which can't be easily accessed due to the lack of qualified IT staff. This dramatically increases the risk of failing to respond promptly to Release of Information requests, audits, and e-discovery requests. All of these risks can be avoided by retiring legacy applications and by archiving data that must be retained for compliance to retention regulations.

High Compression with Easy Access

To enable application retirement when the application data is regulated, all data within the application is archived to an optimal, highly compressed format. The average compression rate is 95 to 98 percent, dramatically reducing storage consumption. This means a 100TB database can be compressed down to only 2 to 5 TB. Once compressed, archived data can be easily searched, accessed, and reported on directly, without the need to restore it. The easy access and search support timely responses to Release of Information requests, audits and e-discovery requests, reducing the risk of potential fines. Compression maintains the original data structure while securing it so that its authenticity is guaranteed and data relational integrity is maintained. The archive is therefore immutable and access to its data is granted only to authorized users with the appropriate roles and privileges.

Differences from Data Backup and Data Warehousing

Application retirement delivers savings by (1) moving data to a lower-cost hardware and software platform while retaining access to the data and (2) decommissioning the high-cost legacy hardware and software so all of the associated costs are eliminated. As such, application retirement provides cost-effective, long-term data retention that's fundamentally different from either data backup or data warehousing.

Data backup is most appropriately being used as a point-in-time snapshot for recovering data following a system crash or other cause of data loss. In these situations, the data that has been backed up is restored into the same application environment in which it was created. Data backup requires not only that the application hardware and application software be available but also that knowledgeable staff can operate and support the application. Without restoring the data into an appropriate application environment, it remains inaccessible for queries or other uses. A key requirement to an archive solution is data accessibility. As a result, backups do not provide any of the operational or cost-saving benefits of retiring an unneeded application while preserving access to the data for regulatory or compliance purposes.

Data warehousing is a solution for real-time analytics and business intelligence. This solution is ideal for intensive reporting. Retaining that data for compliance or occasional reporting only wastes resources in the form of data warehouse licenses and expensive servers or appliances. In addition, storing retired data in a data warehouse will ensure that it's retained, but the integrity of the data may be compromised making it hard to guarantee its authenticity and doing little to reduce the costs of hardware and software.

Deploying an Application Retirement Initiative

Project Complexity and Requirements

Application retirement requires a high degree of collaboration among clinical, business and technical teams. As with all IT initiatives, if the operational organizations are not on board and partnering with IT to get the job done, the initiative will likely fail. A key retirement objective should not be to redevelop an application; instead it should be to ensure easy retrieval of archived data. Diligence and agility are required to maintain sight of the end result—an archive, not a new application. Otherwise, scope creep can stall the project.

Technical teams focused on application retirement are most efficient when they tackle each application as a mini-project. Teams will routinely be working on five applications at a time, each running on a different platform. As with the data access challenge, the key is to find the path of least resistance to establish connectivity to the source platform and complete the archive and verification process. Each application will be processed only once, so finding the easiest, not the most elegant, connectivity method is always best.

Lifetime and Process Flow

Application retirement initiatives are usually funded and started with a large backlog of dormant applications. The process flows in the following steps:

1. Clear workflow is established for applications to follow as they are evaluated and selected for the appropriate retirement option.
2. Business, clinical, and technical requirements are documented.
3. Archive and verification processes are executed.
4. Approvals are signed off.
5. Data is mapped to the healthcare patient record common data model to deliver the pre-defined 30+ clinical and patient accounting reports needed by physicians, revenue management, and HIM teams. Previously documented requirements are tested and signed off.
6. Applications are decommissioned.

It is essential that the application retirement process fit within existing IT change-and-release processes to avoid process violation and minimize disruption and lost time.

Once processes are established and documented and teams are educated, the task of hardening begins. Hardening is testing the retirement process assumptions with the assembled team and technologies to determine the most effective path to move an application from its freeze date to a decommissioned state. An organization should expect the initial set of applications to move slowly through the new process. Once the people gain experience and the processes and technology mature, the speed and cost to retire each application will yield a dramatic improvement in metrics.

Application retirement also has a support or service delivery element to it. The archive repositories themselves must be maintained. Although most data is initially retired with the intention to retain it indefinitely, the goal should not be to maintain it in the archives forever. The proven best practice is rather to dispose of the archived data by applying policies of records management and purge processing.

Time to Value

Decommissioning drives the value of application retirement. This final step happens only after the verification process has proven that the archive is complete and the data access requirements are met. The time needed to archive and verify an application is based on the source platform itself and the size of the application database. Occasionally, a source platform such as Mumps requires specialized extraction processes. Most platforms can be archived and verified through a streamlined process. No filtering or data selection is required or necessary by the process because of the archive engine architecture and the compression achieved in the archive repository. Most applications are archived and verified in a few weeks.

The project task that most dictates time to value is the data mapping exercise needed for the patient search and reporting to function. This data mapping requires legacy application knowledge and Informatica Healthcare Accelerator knowledge. Once the mapping is completed, the business and HIM team can validate that their most common queries and release requests can be met. Report customizations are possible if uncommon requirements exist. Most applications are mapped and report requirements tested in a few months.

Retiring Applications with Informatica Data Archive

Compliance with Data Retention and Privacy Regulations

To enable CIOs to keep up with healthcare reform, new compliance mandates, and continually advancing technology, Informatica Data Archive offers a comprehensive set of application retirement capabilities. This highly scalable information lifecycle management (ILM) software ensures that retired data is secured and retained for the period specified by regulations on data retention and privacy. When needed and defined the software enforces assigned retention policies to retired data from the application level to a granular group of records. It then purges the data when the retention period expires so that the archive is not retained beyond a period of time that would pose a legal risk. Tight integration with some of the best-in-class storage platforms, such as EMC Centera and Hitachi HCP, can be leveraged to guarantee that retired data is locked down until the retention period expires. In the event of an audit or litigation, robust capabilities ensure that retired data remains accessible for reporting and e-discovery.

Compliance Management with Archive Data Validation

Informatica Data Archive provides a compliance manager with integrated archive data validation. The compliance management capability automates enforcement of data retention policies. When data sets are eligible for purging, administrators can kick off an authorized workflow to ensure defensible deletion. As part of that workflow, legal holds that have been applied to archived data are also tracked and enforced. When archived data is consolidated, tagged, indexed, and assigned a retention period, it is easier to comply with retention policies and legal holds.

Efficient Data Storage and Tiered Storage Strategies

In addition to ensuring cost-effective compliance with retention regulations, Informatica Data Archive improves enterprise application performance and eliminates the expense associated with maintaining redundant legacy applications. The software converts retired data to an optimal, highly compressed archive format, yielding up to 98 percent compression. While significantly reducing storage capacity requirements, it fully indexes the data to support query and search. Because retired data is infrequently accessed and typically never modified, it can be stored in an inexpensive storage tier. This capacity enables healthcare organizations to save costs and free up high-speed storage for critical business needs.

Flexible, Easy, Secure Access to Retired Data

Informatica Data Archive ensures that retired data is appropriately secured and can be accessed on demand during the regular course of business as well as for audits and e-discovery. Retired application data can be accessed via standard interfaces such as ODBC/JDBC and SQL and through reporting tools such as Crystal Reports and MicroStrategy. Data can also be searched with full application context, from within the integrated data discovery portal, which is available as part of Informatica Data Archive.

The data access mechanisms described above are available to all Data Archive customers in all industries. These are standard capabilities of the product which can be leveraged, if needed, by healthcare organizations also. Most importantly, the Healthcare Accelerator provides specialized data access to meet the requirement to efficiently and effectively search for a patient, query patient records, and produce reports to be part of a Release of Information. Standardized reports to present medical record data are provided to cover all aspects of patient encounters.

Data security and data protection capabilities are included in Informatica Data Archive to insure only those users with the appropriate privileges can query and report on patient data. All patient data access is audited including the who, when, and what patient ID is accessed. Additionally, sensitive patient data can be protected from view from those needing to query data about patients without the need to actually see every sensitive data element.

Conclusion

Eliminating the costs associated with redundant, legacy applications is not an easy task. Start small by identifying a few applications that are no longer being used and are ready for retirement.

As part of the Informatica Application Consolidation and Migration solution, Informatica Data Archive is designed to effectively manage the challenges that come with application retirement. This highly scalable, high-performance software retires and secures application data while providing easy, on-demand access. It improves enterprise application performance, eliminates the costs associated with redundant legacy applications, and ensures cost-effective compliance with retention regulations. Collectively, these capabilities provide the healthcare CIO with the means for effective information lifecycle management.

About Informatica

Informatica is 100 percent focused on data because the world runs on data. Organizations need business solutions around data for the cloud, big data, real-time and streaming. Informatica is the world's No. 1 provider of data management solutions, in the cloud, on-premise or in a hybrid environment. More than 7,000 organizations around the world turn to Informatica for data solutions that power their businesses.



Worldwide Headquarters, 2100 Seaport Blvd, Redwood City, CA 94063, USA Phone: 650.385.5000 Fax: 650.385.5500
Toll-free in the US: 1.800.653.3871 informatica.com [linkedin.com/company/informatica](https://www.linkedin.com/company/informatica) twitter.com/Informatica

© 2016 Informatica LLC. All rights reserved. Informatica® and Put potential to work™ are trademarks or registered trademarks of Informatica in the United States and in jurisdictions throughout the world. All other company and product names may be trade names or trademarks.

IN09_0913_02370_1016