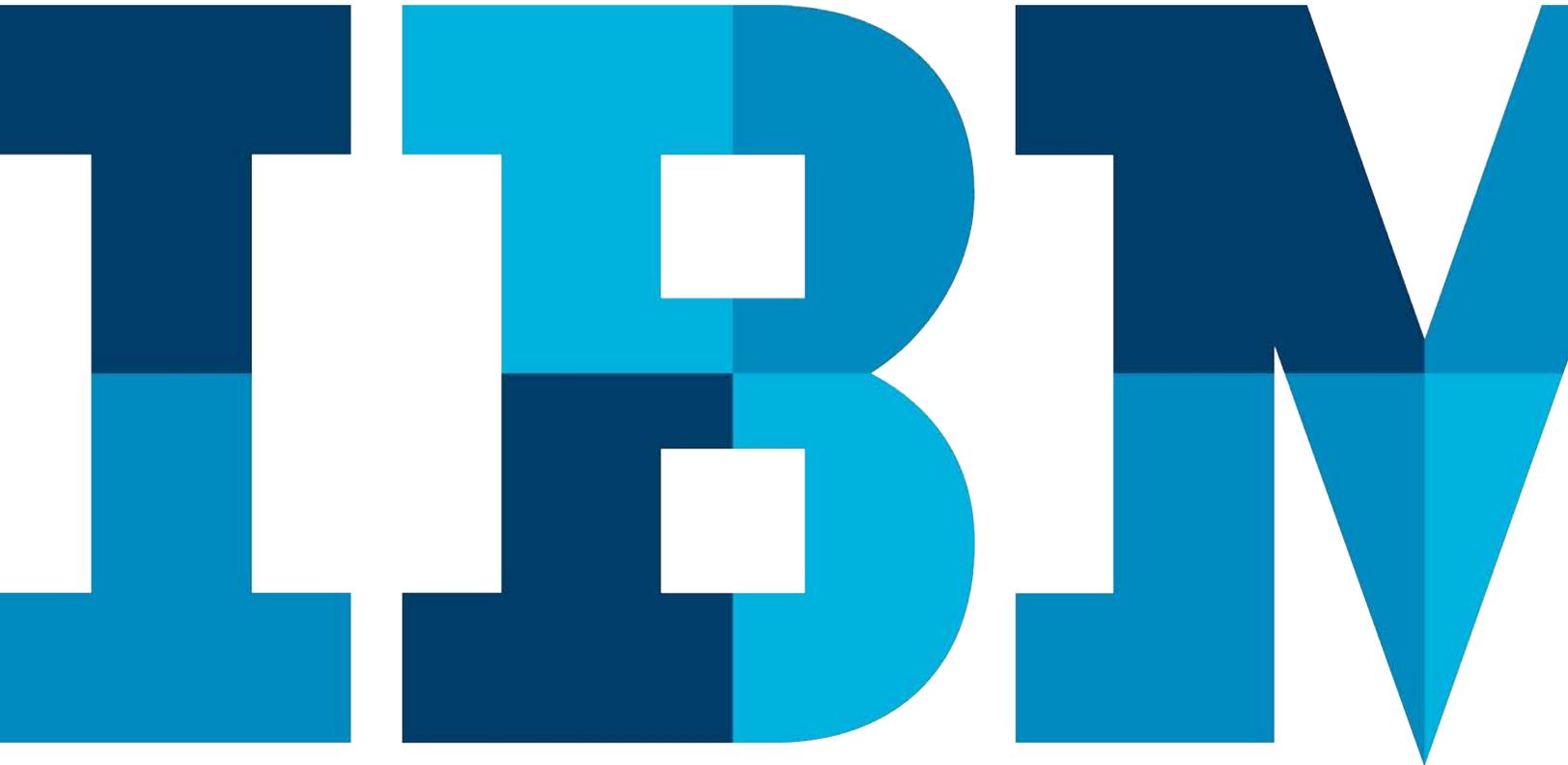


Application consolidation and retirement projects: Strategies that deliver ROI



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Executive summary

Organizations rely on a myriad of custom and packaged applications such as enterprise resource planning (ERP) and customer relationship management (CRM) to collect and manage the critical business information that drives daily operations. As the business evolves, organizations often need to upgrade to next-generation applications, consolidate and retire (decommission) applications, and simplify the supporting IT infrastructure to reduce costs.

As a recommended best practice, organizations should evaluate application portfolios regularly to determine whether their investments are delivering maximum business value. Weighing the costs and benefits of each application can help when deciding which applications should be maintained, and which ones should be upgraded, replaced, consolidated or retired. In many cases, the review, evaluation and decision process can lead to significant hardware, software and maintenance cost savings, as well as improved application and operational efficiencies.

For example, if critical business data is scattered among several application instances, consolidation offers advantages in promoting consistency and improving efficiency. When considering application consolidation, a best practice is to first take steps to actively address and manage the quality of data that supports mission-critical strategies by better understanding data sources and retention policies.

In other cases where organizations have redundant or older technology that is no longer delivering business value, application retirement offers the opportunity to lower infrastructure costs and mitigate the operational risk associated with removing or retiring systems, applications, databases or hardware platforms from service. And in all of these scenarios, organizations must also ensure access to historical business data that must be retained for compliance or privacy regulations.

Incorporating database archiving as part of an overall information governance strategy facilitates consolidation and retirement projects and helps organizations reach their business goals. Database archiving enables IT professionals to safely remove historical data from the application or system being consolidated or retired while keeping the data accessible. Archived data can be saved to a variety of storage media based on its business value and access requirements. Data lifecycle management solutions that offer proven database archiving and retrieval capabilities help organizations successfully complete application consolidation and retirement projects.

This paper provides insight into how the IBM® InfoSphere® portfolio can help you address best practices for application consolidation and retirement to help improve the efficiency of your applications, enhance data quality and simplify your IT infrastructure to garner significant savings.

Managing your application portfolio

Enterprise applications and information drive your business initiatives. The stakes are high. You make a substantial investment in managing and maintaining those applications, as well as their supporting databases and IT infrastructure. Periodically reviewing and quantifying the value of your application portfolio is an essential part of simplifying your IT infrastructure and controlling costs.

Application portfolio management is a necessary step for organizations that want to maintain an agile operating environment and continually control costs. As a general rule, IT executives should work with application managers and business users to evaluate application portfolios regularly. This approach makes sense in an environment that must continue to deliver trusted information for decision making, drive revenue opportunities and deliver superior customer service while consistently managing costs.

The goal of the CIO and overall IT organization is to make sure enterprise applications deliver maximum business value. By analyzing how business applications satisfy your operational and reporting requirements and by estimating IT resource and application maintenance costs, you can decide which applications should be maintained and which ones should be upgraded, replaced, consolidated or retired.

Application consolidation and retirement projects: What and why?

Consolidation and retirement projects often complement each other. By consolidating data and retiring redundant or legacy systems and applications, you can improve operations management and reduce costs across your IT environment, including hardware, software, network infrastructure, staff resources and more. Consolidation and retirement projects make good business sense when an organization wants to:

- Consolidate one or more homegrown applications into a purchased ERP application
- Consolidate and eliminate unsupported versions of applications or databases
- Migrate an application from a high-cost operating platform to a lower-cost platform
- Retire an application and eliminate redundant or obsolete systems from the enterprise infrastructure
- Improve application performance and business process execution

What are the benefits? Once data from similar business applications is consolidated and redundant applications are retired, substantial resources are then reclaimed to support the applications that deliver the greatest business value. For example, a skilled database administrator (DBA) can redirect productive time toward implementing an ERP package instead of maintaining a patchwork of databases that support outdated legacy applications.

When you rationalize your infrastructure, you also lessen its complexity and therefore reduce business risk. For example, by consolidating a dozen homegrown general ledger applications into Oracle E-Business Suite Financials, you can provide business-critical support and reduce the risk of missing key processing deadlines, such as a month-end close.

Additionally, when application consolidation is properly addressed, you benefit from improved business process execution and enhanced customer experiences, and you can leverage trusted information to support mission-critical applications and make better business decisions.

Why not move forward? If consolidation and retirement projects help save money, reduce risk and improve business processes, why not just move forward? Many organizations hesitate to consolidate and eliminate redundant or obsolete applications because they fear losing access to the underlying application data needed to run the business, understand trends, market to customers and support decision making to meet revenue goals. In addition, organizations must continue to manage historical data to comply with governance and regulatory data retention requirements.

When considering candidates for your consolidation and retirement projects, be aware that most, if not all, of the historical reference data managed in application production databases is rarely accessed. With some consolidation projects, it may not be cost-effective to move all historical data to the new application or platform. Moving large volumes of historical data consumes costly storage capacity and potentially degrades application performance. Similarly, with some application retirement projects, there is the question of how to retain access to historical data once an application is removed from service.

So can you move forward with your consolidation and retirement projects while retaining access to your current and historical data? Database archiving offers a viable solution.

What should you look for in an application consolidation and retirement solution? To be successful, any consolidation or retirement project must include a solution with capabilities that:

- Expedite consolidation efforts
- Reduce project risks and accelerate time-to-value
- Help you remediate inconsistencies in your data
- Provide a repeatable, flexible infrastructure for data integration and information analytics and governance

To address the complexity of today's IT ecosystem, which includes diverse applications and databases, the consolidation and retirement solution should provide connectivity to multiple source and target applications and databases and must be backed by standardized, data-centric processes. The solution should also support data retention compliance and provide efficient access to information.

Data retention requirements vary by industry and location; in general they range from 7 to 14 years, but can extend to 50 or more years depending upon the type of data and the organization's regulatory needs. To preserve the integrity of historical data, you need capabilities that help you to:

- Preserve the business context of archived data
- Provide access capabilities that ensure efficient retrieval for research and reporting, as well as audits and eDiscovery requests
- Implement appropriate storage strategies, based on business value and access requirements, to lower costs throughout retention periods

What you need is a complete data lifecycle management strategy that includes powerful data transformation and database archiving capabilities.

Considerations for project planning

The key to any successful consolidation or retirement project is careful planning and assessment. Before initiating your project, it is critical to obtain input and consensus from all groups involved. Each group will have different requirements. Business users may want to ensure that data is of high quality and easy to retrieve or restore for additional processing. Audit and compliance officers want to provide secure, timely access and appropriate disposal to support corporate compliance initiatives. And IT executives want a solution that minimizes costs, infrastructure complexity and operational risks. It is important to manage your company's application portfolio in a way that addresses the critical needs of each business group.

Before you start the project, consider these elements:

- Business value of the application, database, platform or system
- Ways in which the data will be used
- Degree of interoperability and redundancy
- Costs and risks associated with continued operation
- Costs and risks associated with migrating, consolidating or retiring an application, database, platform or system

In addition, you must consider the application data, which remains a valuable business asset even after the original application is no longer used. Senior managers and business users need to determine not only what business records require frequent access, but more important, who will be accessing the information and how they will want to view or use it.

Companies typically approach this challenge in a number of ways. Some restrict access to a smaller number of “power users” who perform queries and answer questions for the larger business-user community. Others create a temporary interface to make end users feel more comfortable.

Once the planning phase is complete and you have considered each department's needs, you can begin the consolidation or retirement process.

Typical project scenarios

As mentioned previously, application consolidation and retirement projects complement each other, and both can be supported by database archiving. Database archiving provides a way to manage historical data and keep it accessible, even after applications are consolidated or taken out of service. At the same time, archiving helps keep newly consolidated data lean and clean so that it is better able to support business processes.

Consolidating, replacing or migrating applications.

Whether you are consolidating data from multiple application instances, replacing one or more applications with another or migrating an application from one operating environment to another, the application consolidation and migration scenario is more complex and costly to perform than the application retirement scenario; however, it is also much more common.

Application consolidation and data migration projects start with understanding your data sources, the relationships among those sources and the impact of your data retention policies. Then, you can start analyzing data quality relative to your data requirements. Next, you map your data for migration to the new application environment. You can use an archiving solution to archive the historical legacy data, such as information about inactive clients and closed claims. After archiving is completed, the remaining current data, such as active clients and policies, can be transformed and migrated to the new application environment. Once this migration is complete, the original application or platform can be safely removed from service.

Unless proactively governed, it is common for data quality to deteriorate over time. Therefore, you should continue to manage and monitor data quality—and remediate inconsistencies—after the consolidation project is done. A successful project must institutionalize knowledge and deliver reusable assets and rules on an ongoing basis.

Retiring or decommissioning a complete system or application. In the application retirement scenario, the entire application database is archived and no data is migrated to a replacement application. With IBM InfoSphere Optim™ solutions, you can archive the application data in a single process or perform a series of data transformations before storing the archived data (such as converting an Adabas database to IBM DB2® before archiving). In either case, you must designate authorized users who will have access to the archived data to fulfill an audit or compliance request.

Application retirement takes place once any necessary transformations are complete and the database has been archived. Using InfoSphere Optim can help you achieve the full cost-reduction benefit of application retirement without risking data loss. Users can still view or query the archived application data and selectively restore it as needed.

Case in point: Consolidation improves operational efficiency and reduces costs

After a merger, an international banking firm decided to maintain versions 7.7 and 7.8 of their Siebel CRM applications and reevaluate the decision to consolidate after one year. During that time IT staff monitored system operating costs, as well as license and maintenance fees, and realized that consolidation offered considerable cost savings per year.

The IT staff also coordinated with application managers and business users to assess the advantages and disadvantages of the functionality provided in each older Siebel version compared with the new features offered in version 8.0. Within the year, they determined that it would be more beneficial to users and more cost-effective to consolidate and migrate their Siebel data to version 8.1, and manage it on a DB2 database.

Because Siebel CRM had been in place for more than 10 years, the DB2 and Oracle databases that supported the earlier Siebel versions each contained over 10 TB of current and historical data. It was estimated that roughly 40 percent of that data had to be saved for at least 7 to 15 years as historical reference data to comply with data retention requirements. To begin the consolidation project, the IT staff and business users determined which data to archive from Siebel versions 7.7 (Oracle) and 7.8 (DB2) using the IBM InfoSphere Optim Data Growth Solution for Siebel CRM.

The targeted data included closed customer accounts and all related transaction details for the past five to seven years. They then mapped the current data in the existing Siebel versions to the new installation of Siebel 8.0. Using an effective extract, transform and load (ETL) tool and custom-developed routines to extract, transform and load current data, they migrated current data from the source Siebel versions to the new Siebel 8.0 installation supported by the DB2 database. Migrating only current data to the new environment minimized the amount of time needed to complete the process.

The consolidation process effectively resulted in a considerable return on investment (ROI). After several months, the IT staff continued to monitor the performance of the new Siebel 8.1 installation and found they could sustain targeted service levels. Ongoing database archiving and a policy of managing only current data in the production environment helped improve Siebel operational efficiencies and availability.

Case in point: Application retirement offers significant savings

A leading direct mail company selected Oracle E-Business Suite as its ERP application of choice to support current and future business growth. The decision to subset the mainframe environment made sound business sense; the company expected to save USD6 million per year.

However, with 34 mainframe applications and reliance on DB2, IBM Virtual Storage Access Method (VSAM) and sequential files, the company had accumulated vast amounts of application data. Data retention policies stated that those historical records needed to be kept for 10 years. Adding to the challenge, the Oracle E-Business Suite environment was growing at a rate of 30 percent annually, increasing the time, risk, cost and effort required for any future upgrades.

Clearly, the company needed several key information governance capabilities. First, to support the mainframe retirement initiative, they needed to archive, manage and store mainframe data cost-effectively. Next, they needed the ability to access and report against the archived data, keeping it in an audit-ready format for compliance purposes. Finally, to support their Oracle E-Business Suite initiative, they needed to archive historical data. Using archiving to control data growth would significantly improve any future upgrades. InfoSphere Optim satisfied all of the requirements.

The company achieved outstanding business value with savings of more than USD2 million in projected five-year IT capacity expansion costs. It also saved USD6 million in hardware infrastructure and software licensing by subsetting the mainframe applications. Additional benefits included annual productivity improvements derived from increased availability and measured improvements in application response time and batch-cycle run times. Taking control of application data growth also made it possible to reduce the cutover time to move from Oracle 10.7 to 11i, a significant improvement from past upgrades.

Case in point: Consolidation and migration simplifies IT infrastructure and increases operational efficiency

A global specialty chemical company wanted to reduce profit exposure to fluctuations in costs of chemical and energy raw materials. The organization needed to improve operational efficiency by increasing synergy across divisions and leveraging economies of scale.

The organization launched a global ERP consolidation into a single SAP instance. The large application portfolio included predominantly PeopleSoft Enterprise, with some custom and legacy applications. The company's IT teams had to support too many instances and applications, including multiple versions of PeopleSoft General Ledger and Accounts Payable modules. The company also needed to adhere to strict industry data retention policies such as the Sarbanes-Oxley Act; work with agencies including the Securities and Exchange Commission, Nuclear Regulatory Commission and Federal Energy Regulatory Commission; and comply with tax regulations. All of these factors made the consolidation project highly complex and risk-prone.

IBM InfoSphere Information Server was selected for phase 2 of the global consolidation project to support migration of existing ERP data into SAP. InfoSphere Information Server capabilities were used to profile legacy systems, design data integration flows and quality processes, transform and load data to SAP, and help ensure the quality and consistency of data from multiple source environments in SAP.

InfoSphere Information Server data integration and governance capabilities helped the company to reduce risk and ensure timely deployment of phase 2 of the global consolidation project. It also helped the company create a reusable platform of data integration routines for greater transparency, consistency and accuracy, and develop self-sufficiency for remaining rollouts, as well as data management quality. In addition, the organization successfully passed Sarbanes-Oxley auditing with financial record retention that is consistent, repeatable and unalterable.

The InfoSphere platform: Supporting consolidation and retirement projects

IBM InfoSphere is a comprehensive platform for application consolidation and retirement initiatives. It addresses the entire information supply chain with capabilities to understand, consolidate and apply data quality measures. It lets you retire applications into a high-performing single source, moving only necessary information and enabling compliance with retention and eDiscovery requirements. The InfoSphere platform architecture closely integrates key capabilities for consolidation, migration and retirement through critical offerings such as InfoSphere Information Server and InfoSphere Optim. The integrated architecture not only helps lower total cost of ownership (TCO) but also helps minimize your project risks.

The InfoSphere platform provides the foundational building blocks of trusted information, including data integration, data warehousing, master data management and information governance, all integrated around a core of shared metadata and models. The portfolio is modular, enabling you to start anywhere and mix and match InfoSphere software building blocks with components from other vendors, or choose to deploy multiple building blocks together for increased acceleration and value. The InfoSphere platform provides an enterprise-class foundation for information-intensive projects, supporting the performance, scalability, reliability and acceleration needed to deliver trusted information to your business.

Discover comprehensive integration capabilities with IBM InfoSphere Information Server

InfoSphere Information Server provides comprehensive, robust, scalable integration capabilities designed to be a key component of your application consolidation and retirement initiatives. With end-to-end information integration capabilities, it helps ensure that the information driving your business and your strategic initiatives is trusted, consistent and governed in real time. It enables you to understand and govern data, create and maintain data quality, and transform and deliver data. It also provides a range of connectivity and high-performance capabilities necessary for moving large amounts of data in batch and real time.

InfoSphere Information Server consists of three core packages to target your biggest information challenges: InfoSphere Business Information Exchange, InfoSphere Information Server for Data Integration and InfoSphere Information Server for Data Quality. All three of these packages are available within InfoSphere Information Server Enterprise Edition.

Understand, discover and govern your information

InfoSphere Business Information Exchange provides comprehensive capabilities that enable deeper and faster understanding of information and application usage across the enterprise with an advanced, easy-to-use business vocabulary management capability. It encourages a standardized approach to discovering your IT assets and defining a common business language, supporting closer alignment between your business and IT goals.

InfoSphere Business Information Exchange can be used to automate the discovery of relationships within and across data sources, as well as manage and explore data lineage to create trusted information. Also, it helps you establish a solid foundation for governing data after migrating it to a new application environment.

Transform data in any style and deliver it to any system

InfoSphere Information Server for Data Integration enables you to transform data in any style and deliver it to any system, promoting faster time-to-value and helping to reduce project risk. It enables transformation of information from across your enterprise, and then helps to integrate data on demand across multiple sources and targets—all while satisfying complex compliance and performance requirements with unmatched scalability.

InfoSphere Information Server for Data Integration includes hundreds of built-in transformation functions that can be readily used to accelerate your project deployment. It also helps eliminate manually intensive and risky data transformation processes through reusable logic. Finally, it helps deliver accurate data critical to your new application environment.

Create and monitor data quality

InfoSphere Information Server for Data Quality provides rich capabilities that let you create and monitor data quality by turning data assets into trusted information. It helps you automate the discovery of relationships within and across data sources and analyze data and control data quality by using source system analysis to uncover data quality issues and establish a remediation plan. These capabilities ultimately allow you to assess and monitor data quality anywhere, such as within a database or in a data flow. You can also align data quality metrics with business and governance objectives.

Manage enterprise application data with InfoSphere Optim

The InfoSphere Optim Solution for Application Retirement provides database archiving capabilities that enable IT organizations to archive and safely remove historical reference data from the application or system being consolidated or retired. Those capabilities support the flexibility to move only current data to the new or consolidated application, while managing historical data and keeping it accessible. Archived data can be stored cost-effectively to a variety of storage media, based on its business value and access requirements.

Preserving historical data in its business context

Data retention regulations—such as the Sarbanes-Oxley Act, Basel II and the Health Insurance Portability and Accountability Act (HIPAA)—require companies to retain historical data in its original business context for specified periods of time. Using InfoSphere Optim, you can capture and remove subsets of related data that make up a logical business object, such as “payments” or “policies.” Typically, those business objects are associated with other reference details through database key relationships or by means of the relationships defined in the application business logic.

Conceptually, a complete business object represents a historical “point-in-time” snapshot of a business transaction. For any given business object, InfoSphere Optim archive processing captures all related data, including transaction details, master or reference data and associated metadata, from single or multiple data sources and other application databases and saves it to a secure archive. As a result, application data is preserved in its original and complete business context and remains accessible for full lifecycle data management—an essential requirement for consolidation and retirement projects.

Providing on-demand access to archived application data

Organizations must be able to retrieve archived historical data on demand. With InfoSphere Optim, you have options for locating and retrieving an entire archive or any desired portion of an archive as needed—no matter where it is stored. If necessary, you can restore archived data to an application database or separate platform. The destination database does not have to be the same type, version or even the same platform as the originating database. Because archive processing preserves the complete business object, archived data can always be retrieved and restored in its business context, regardless of the data model.

Organizations must also consider how workers will access archived historical data after the originating application is retired from service. InfoSphere Optim provides a consistent method for reporting on historical records, regardless of the application, version or platform on which the data was originally managed. Because InfoSphere Optim enables application-independent access, you can rely on industry-standard methods such as ODBC/JDBC, XML or SQL, and reporting tools such as IBM Cognos® Business Intelligence, SAP Crystal Reports or SAP BusinessObjects to access archived historical data. With the ability to query, browse and generate reports, you can respond quickly and accurately to audit or eDiscovery requests.

Implementing cost-effective tiered storage strategies

By definition, archived historical data from consolidated and retired applications is accessed less frequently than current application data, up until its retention period expires. By implementing database archiving and storage strategies that meet accessibility requirements, companies can reduce the cost of managing and storing data while supporting compliance initiatives.

InfoSphere Optim helps you manage archived data on a variety of low-cost storage media. As the business value of application data diminishes, it makes sense to move that data from high-speed, high-cost storage systems to less-expensive media. Implementing a tiered storage model for archived application data helps you reduce costs and reclaim high-performing storage infrastructure for current business-critical needs (see Figure 1).

In either the consolidation or retirement scenario, you may choose to deploy tiered archives to a near-line storage area network (SAN) or network attached storage (NAS) environment for an initial period, eventually migrate that data to offline storage and ultimately move it to inexpensive tape or disk-based write once, read many (WORM) devices. Storing archived application data on a WORM device prevents it from being altered or accidentally deleted. You can manage the data according to defined storage timeframes, ensuring that the data remains accessible for inquiry and reporting purposes.

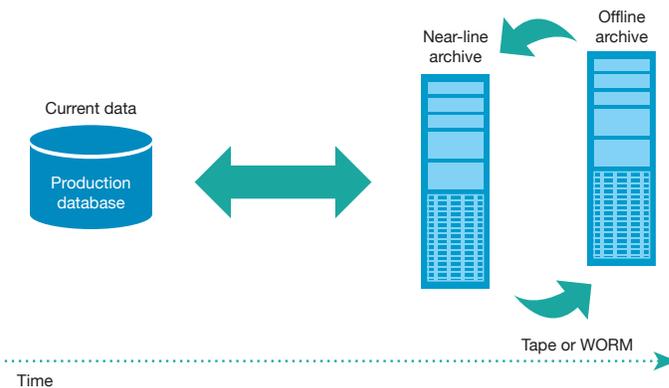


Figure 1: InfoSphere Optim supports tiered storage strategies for managing archived data.

Make optimum use of your applications and data to deliver business value

Organizations invest millions in their enterprise applications and supporting infrastructure. Periodically reviewing your application portfolio can help identify underperforming or redundant systems and evaluate them for possible consolidation or retirement. InfoSphere solutions support a scalable, modular approach designed to help increase organizational productivity and deliver business value. Organizations can use this strategy to enhance the quality of their data while lowering the cost of owning and governing data, databases and data-driven applications. InfoSphere solutions support a value proposition that can help significantly lower your TCO by optimizing your company's investment in mission-critical applications and databases. With InfoSphere solutions, your organization can:

- Deploy a single, comprehensive enterprise archive solution to address the problem of database growth across all applications in the enterprise
- Maintain acceptable service levels by minimizing production database searches and improving response time
- Help reduce database maintenance time and downtime for application upgrades, and shorten batch process windows to increase application and database availability
- Defer capacity upgrades and the associated expense of hardware and software license fees
- Store archived data on a variety of cost-effective storage media and retain access to archived data wherever it is stored

- Speed disaster recovery time by hours or days by keeping only business-critical data in production databases
- Automate intensively manual consolidation and migration processes and enable common understanding of requirements
- Help improve business process execution and the customer experience by enhancing data quality
- Find and correct data quality errors early to reduce costs and improve productivity
- Provide a repeatable, flexible infrastructure for data integration, information analytics and governance by enhancing data quality

InfoSphere supports leading enterprise databases and operating systems and provides data management support for custom and packaged applications.

In addition, the IBM Software Lab Services team provides comprehensive project planning, execution and onsite support, enabling clients to consolidate or retire redundant or obsolete applications using InfoSphere capabilities.

For more information

To learn more about IBM InfoSphere, please contact your IBM sales representative or visit: ibm.com/software/data/infosphere

To learn more about IBM InfoSphere Optim solutions, please contact your IBM sales representative or visit: ibm.com/software/data/optim

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