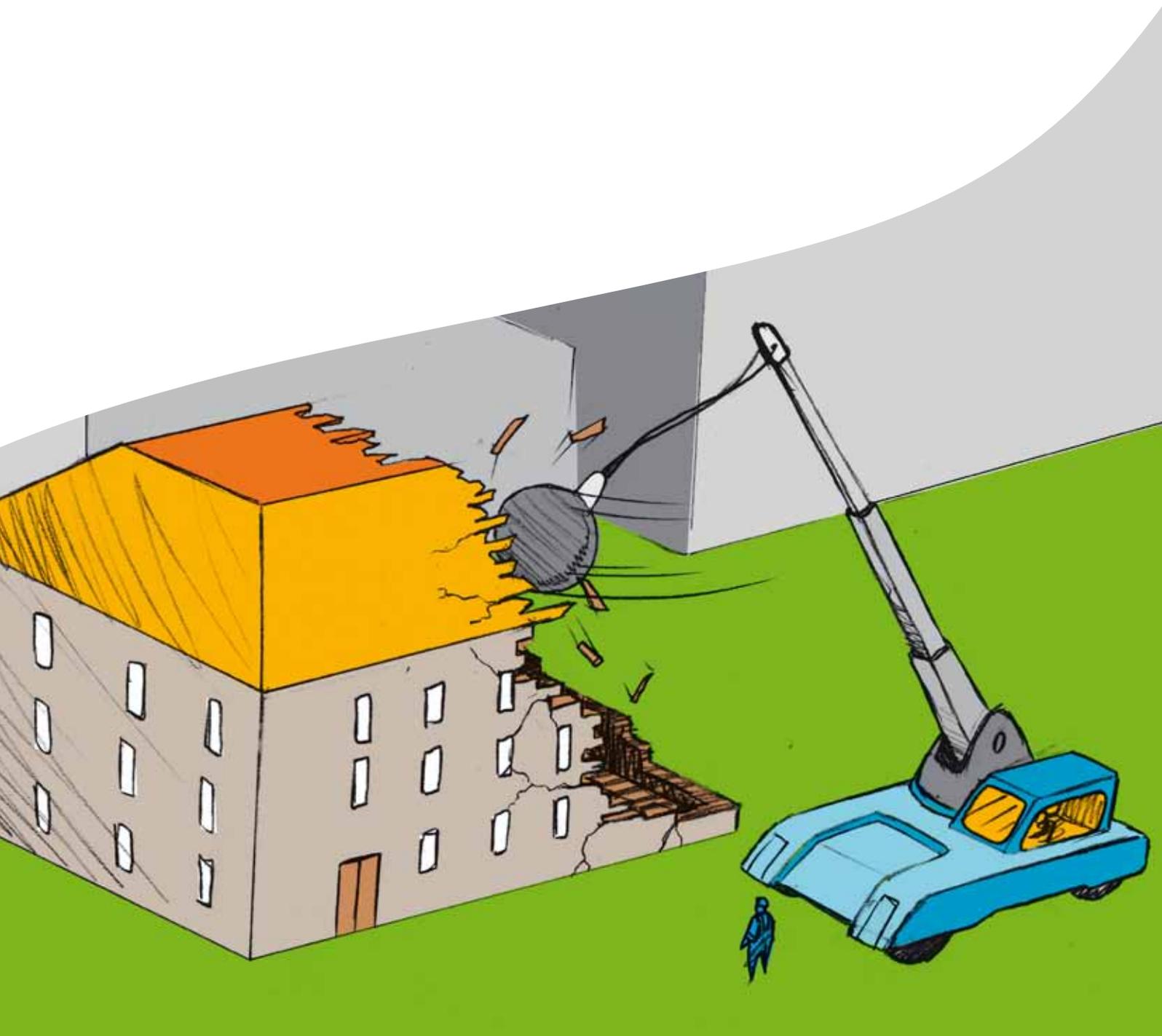


# Application Modernization and Retirement

**Sustaining business innovation in the face of  
mounting IT complexity**



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# Application complexity is slowing your progress

**Most organizations do not have a clear strategy for retiring legacy applications and continue to spend up to three-quarters of their IT budgets just “keeping the lights on” - supporting outdated, redundant and sometimes entirely obsolete systems.**

IT has always been in the forefront of innovation and agility. New applications fuel an organization’s growth and productivity, automate key business processes and provide competitive edge. But inevitably, the cutting-edge systems of yesterday become today’s legacy applications. These applications may still support core business processes and comprise the majority of an organization’s application assets. However, they are often written in outdated development languages and run on platforms that can no longer effectively integrate with the organization’s new architectures.

Historically, organizations often chose to write custom applications rather than purchase IT systems off-the-shelf. The larger and more profitable the organization, the bigger were their IT teams, creating specialized applications uniquely tailored to meet their distinctive business demands. But as organizations grew, developed new product offerings, merged, and acquired new business units, they began to lose control of the rapidly growing number of custom-built applications and databases. Unable to cope with the potential risks of retiring old systems, and replacing them with new, consolidated applications, many organizations are now faced with having to maintain and support original legacy systems that can date back to up to three decades. Keeping these systems up and running requires dedicated teams with specialized skill sets, which are getting harder to obtain in the fast-changing world of IT. Yet, most organizations do not have a clear strategy for retiring legacy applications and continue to spend up to three-quarters of their IT budgets just “keeping the lights on” - supporting outdated, redundant and sometimes entirely obsolete systems.

Importantly, the cluttered, sprawled application landscape leaves almost no room for innovation and impedes business agility. For example, without a single, consolidated view of the customer database, it is next to impossible to create tailored promotional campaigns or introduce custom product offerings. Again, a lack of centralized reporting system can cause organizations to make critical mistakes in taking product inventory, tracking shipments, or processing payments. And with many redundant systems running almost the same types of transactions, it becomes very difficult to pinpoint the root cause of the problem – if the application has a functional or performance error.

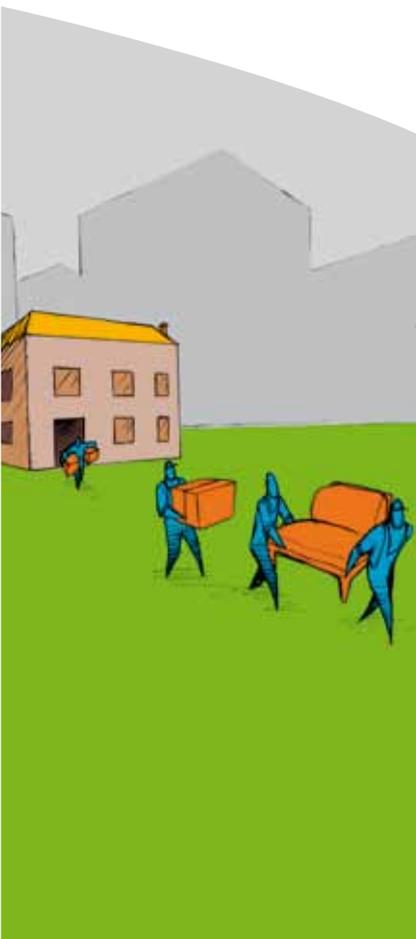


Another common issue with application growth is an exponential increase in data. Even the simplest IT systems are capable of generating large quantities of data such as transaction records, customer information, or shipping details. Without proper archiving methods, stored data can grow exponentially – up to five percent per month on a large system. The three main factors that contribute to uncontrollable data growth are:

- Acquisitions
- Poor archiving practices
- Lack of clear internal guidelines on data retention and compliancy

Most organizations do not have a well-defined process for removing historic records prior to merging application instances or routinely archiving old data. As a result, they often find themselves retaining obsolete transaction records far beyond the required period.

Most CIOs cannot accurately estimate the number of outdated systems that are running in their application landscape and are being supported by the IT staff. Also importantly, they neither have visibility on the true cost of maintaining individual applications, nor a clear picture of the optimal number of applications required to provide real business value and support future growth. Finding the way out of the ever-increasing application sprawl and unchecked data growth is not only a matter of un-cluttering the IT landscape and cutting operational costs; it is about finding room for innovation in IT budgets, increasing agility and efficiency and better aligning IT with the business needs.



# The road to application transformation: new city in the old city

**Only with a structured, methodical, and building-block approach can IT rebuild its application city, revitalize its neighborhoods, streamline its highways, and ensure its future prosperity.**

Like any change, application transformation does not come easy. Breaking existing patterns requires a series of bold, and often, disruptive steps. It is simply not realistic to wipe the slate clean and start building the new application landscape from scratch. Instead, IT teams need to find the most impactful solution and design a gradual approach to restructuring and reorganizing their portfolios: they need to 'build the new city in the old city'. Application transformation is not a one-time exercise. It is an ongoing practice that requires companies to rethink their approach to application lifecycle and incorporate retirement and data archiving into their operations. If implemented correctly, and with long-term goals in mind, application modernization can bring significant benefits like:

- Better aligned application landscape
- Reduced IT operating costs
- Improved agility of existing applications
- Tighter alignment with the business
- Better compliance with data retention regulations and easier access to archived records
- Improved processes going forward to prevent future problems
- Renewed focus on innovation

To regain control of the application portfolio, and reduce complexity, organizations need to develop a master plan, establish strategic partnerships, and implement necessary organizational and process changes. Only with a structured, methodical, and building-block approach can IT rebuild its 'application city', revitalize its neighborhoods, streamline its highways, and ensure its future prosperity.

The road to application transformation begins with identifying and implementing four fundamental steps:

## **Step 1: Plan for change**

Where do you start the journey to fundamentally change the way that your IT applications are being delivered, maintained and retired? Which new principles will you have to incorporate into your application lifecycle to ensure continuous improvement, innovation, better quality and agility? How do you architect your IT systems for change? How can you switch from your current "business as usual" practices to building simplified, flexible application platforms that would better respond to changing business needs? How do you ensure support from your stakeholders to implement disruptive changes?

Perhaps, the most important first step is to scan, analyze, and visualize your existing application portfolio, understand how it aligns with the needs of the business and compare it with the industry standards and benchmarks. Then, it will make sense to create some initial rationalization assumptions – or 'hypotheses' – and explore likely solution scenarios. The planning stage is for defining the scope of your transformation project, identifying required tools, resources, and partnerships and ensuring cross-functional support for the multi-phase, ongoing transformation initiative.

And then again, planning for change is an ongoing effort: rationalization is a continuous necessity with the business context and technology platforms always evolving further. It means the scope of transformation in general becomes more focused and takes less time to be carried out. This delivers direct, measurable results while providing more flexibility for future change.

**Step 2: Scan and document the inventory of your application portfolios**

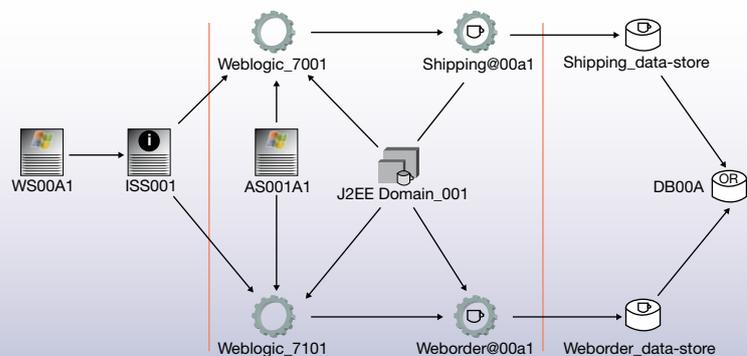
Simply knowing how many production systems exist in your application portfolio is not enough. You need to use analysis and metrics to understand the inter-relationships between applications and their dependencies. There are many criteria – objective and subjective – that can be applied to identify which applications should be kept in their current state, which ones should be changed, and which are deemed obsolete, and are candidates for retirement. These criteria are often referred to as “situational lenses,” and involve many different aspects of functional, structural, financial, and business relevance. Simply put, it’s not important to know how many users the application has. Rather, it is much more significant to understand the business criticality of each specific system and to what extent the application impacts your revenue.

It is essential to apply as many lenses as possible to validate the initial hypotheses and create a complete and relevant picture of your applications’ current state and future potential.

Type of Analysis	Description
Benchmarking Analysis	Assess the entire application portfolio and compare it with industry standards
Financial Analysis	Understand the underlying costs of application as run/build, OPEX/CAPEX
Redundancy Analysis	Identify redundancies by company, country, business unit, plant, process or function
Retirement Analysis	Find applications that are older with a smaller user base and minimal business functionality
Rationalization Analysis	Determine the ease of rationalization (how feasible it is to implement recommendations for expansion, restructuring or consolidation of applications)
Comparative Analysis	Analyze different attributes and dimensions of an application (e.g. stability Vs. criticality; business value Vs. cost)
Architectural Alignment Analysis	Analyze the alignment of underlying application technology with preferred client technology
Risk Analysis	Identify the risks associated with technology obsolescence, vendor support, skills availability, stability issues

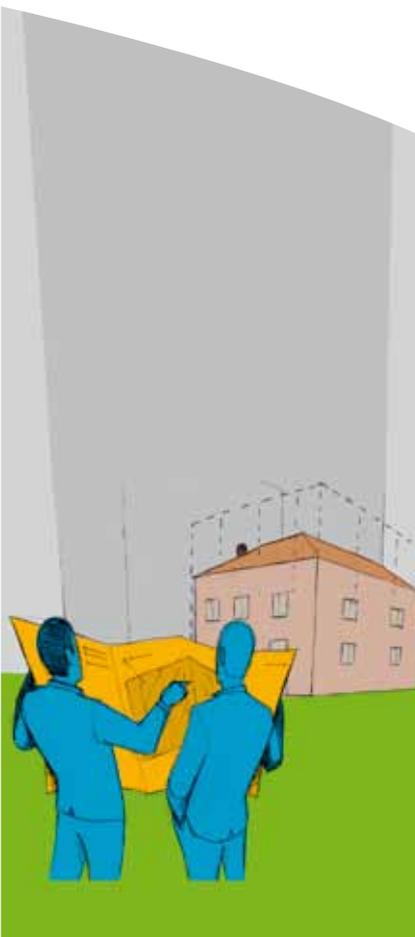
Taking an accurate inventory of existing assets requires input from a variety of sources. Automated Discovery and Dependency Mapping (DDM) tools identify and map the relationships between applications and the underlying infrastructure. DDM provides the basis for understanding all services that IT delivers – from the physical layer of the data center to the business process layer. It dynamically discovers and continuously maps IT service dependencies to provide visibility, and control over business services with minimal effort and cost. DDM also populates the integrated Configuration Management Database (CMDB) to create an accurate model of your IT environment. When you combine automated topology maps with data collected from other sources, you begin to create a comprehensive picture of your applications' functionality, performance, quality status, maintenance history, cost, business relevance, and other specialized statistics quickly.

### Discovery and Dependency Mapping software and the Universal CMDB software



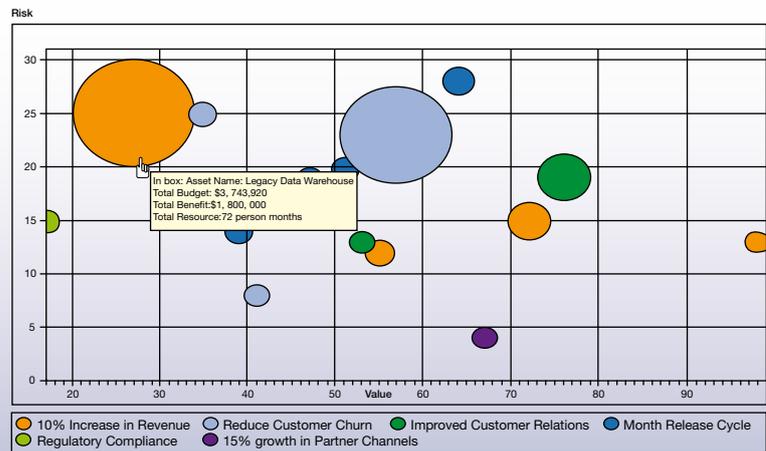
Discovery and Dependency Mapping software and the Universal CMDB software work together to provide the ability to visualize and understand the configuration items and their relationships that deliver critical business services.

In addition to application data, you need to collect portfolio-level information – gain visibility into current projects as well as strategic and operational demand. Automated Project and Portfolio Management (PPM) solutions provide a real-time view into status, schedules, resources, and financial attributes for the entire portfolio of IT projects, applications, and programs. PPM solutions can provide the real-time governance process you need for effective portfolio management. It gives you quantitative information, such as financial budgets and forecasts, resources and schedules, along with qualitative information, such as strategic fit, alignment and complexity for comprehensive analysis and comparison across the entire application portfolio. Automated processes enforce when information is required, so that information is available and consistent across all projects and applications. Importantly, instead of manual data entry or expensive integration,



a portfolio status flows seamlessly in real-time for both project information, and operational activities.

### Project and Portfolio Management Solutions

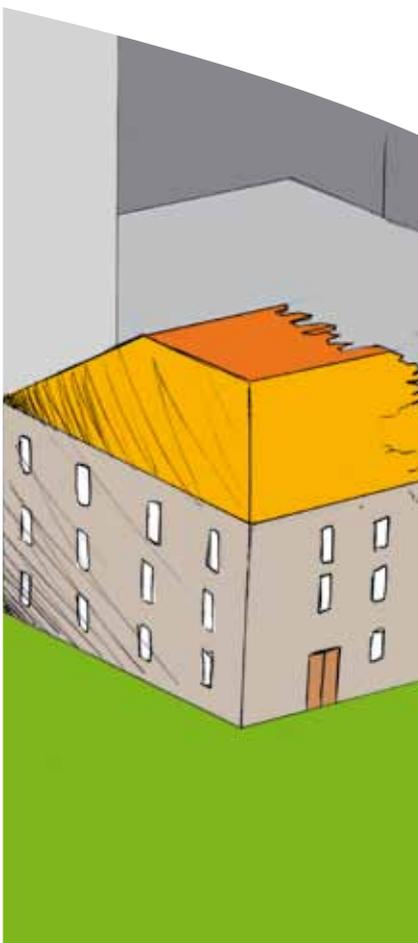


PPM solutions can help gather portfolio information, giving you real-time views of portfolio performance to aid in data gathering and decision making.

All data gathered during the assessment phase will help form the basis for the application architecture and portfolio baseline. This, in turn, can yield the blueprint for rationalization and migration design.

### Step 3: Craft a solution

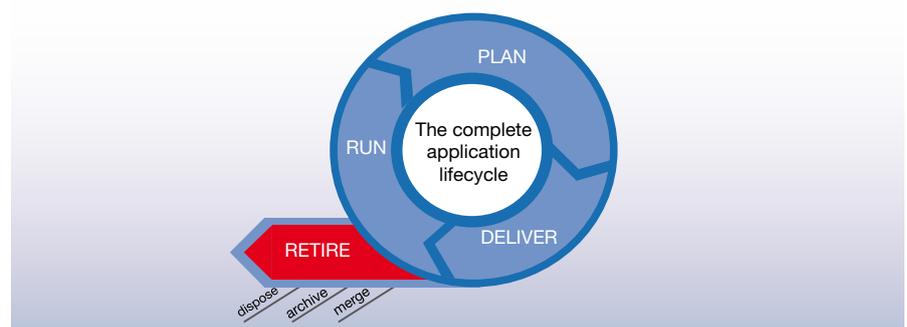
The next step is to craft a rationalization design on how to increase efficiency of current applications, archive historical data, and safely decommission obsolete IT systems. If the application is relevant for the organization's business, it makes sense to continue investing in it. Many legacy applications still provide critical function-ality, but are not as up-to-date and efficient as they should be. These applications need to be changed. They can be re-hosted on modern servers, their codes can be updated to improve performance, or security can be enhanced to meet current standards. On the other hand, if the application is obsolete, you need to offload and store the data where it can be accessed to satisfy compliance requirements, and safely decommission an application. The outcome of this step is a gap analysis and a detailed go-forward plan to retire obsolete applications and archive outdated data.



### Retirement

Retiring an application is perhaps the easiest solution. However, most companies don't have clear criteria for decommissioning a production system. Companies typically view the application lifecycle as a three-step approach: build, deploy and maintain. But the fourth step – retirement or end-of-life - is an equally essential part of the lifecycle and requires its own building-blocks and careful assessment.

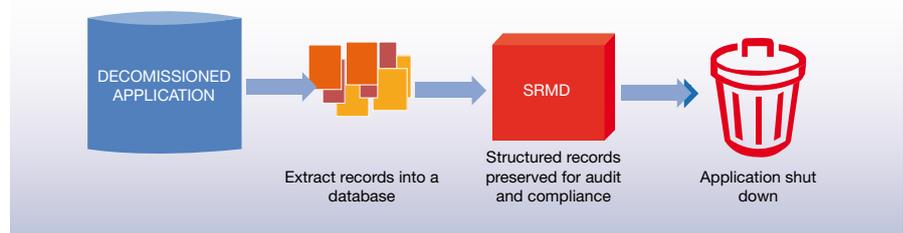
#### Four-Step Approach to Applications Transformation



If the application is outdated, not being used to support a current business process, and its data is not growing by any significant means, it should be retired and its data archived. Archiving needs to be approached with care, because although the application itself is going to be shut down, the records and the underlying business processes need to be exported to a database where they can be accessed for reporting and compliance purposes. It is essential to keep the data and the transactional flows together to maintain an audit trail. The new generation of software solutions offers data archiving processes that automate the migration of data while preserving its business value and meeting the desired access requirements according to retention rules and policies that align with your business. Modern Database Archiving software provides long-term retention and high-speed search and retrieval of database information to mitigate database growth, boost application performance and availability and simplify compliance and legal discovery.

Archiving the data and de-supporting an application can result in significant cost savings, not only in lower energy bills, but also in reduced footprint of a retired application. The greatest savings come from removing the need to support obsolete systems. This can amount to 20 percent of your annual IT costs. Organizations who archived production applications found that only a fraction of support staff was needed to run an archived version compared to supporting production systems. They were able to free up between 50-90 percent of IT personnel and redirect them to more strategic projects.

## Structured Record Management Database (SRMD)

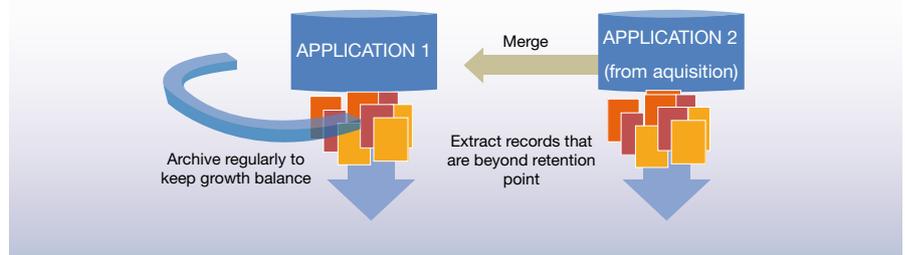


### Optimizing application portfolio by merging redundant systems and archiving data that's beyond its retention point

Any corporate merger, acquisition or restructuring brings with it a number of systems that support the same processes and functions as existing IT applications, but cannot be completely retired for governance, compliance, data retention or other reasons. The redundancy analysis can help identify these systems at different levels: by company, geography, business unit, process or function. The key to an optimized application portfolio is in discovering duplicate and redundant applications and taking necessary steps to merge them – where appropriate – to streamline operations and create better visibility into the organization's business processes.

However, simply merging duplicate applications without archiving their historical data can create explosive mega-systems full of old transaction history that are growing at as much as five percent per month. Such increase in data volumes can also affect application performance, availability, and manageability – ultimately compromising its critical business processes – such as financial close, order processing or management reporting. It is imperative to have a sustainable approach where you remove historical data beyond its required retention period before pushing records into the new system. Once again, automated database archiving software can help facilitate data archiving, moving, retrieval, and access processes.

## Balance Data Archiving



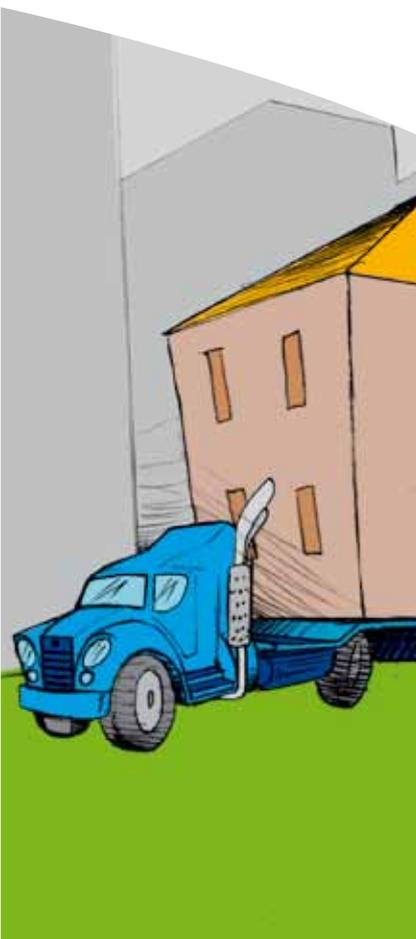
It is essential to understand that a one-time archiving exercise is not going to solve the problem of swelling applications. IT teams need to build regular archiving practices into the lifecycle of applications and data, repeating the process frequently to keep application growth in balance. To achieve this balance, organizations typically need to archive up to double the rate of growth. The first target should be applications that are growing faster than one percent per month – that’s a growth in excess of 14 percent per year. To counter the one percent monthly data growth, it is essential to archive between two and three percent per month. In this way, you are removing more data than is being added. Like all regular maintenance maneuvers, archiving needs to be planned in advance to have minimal impact on production applications’ performance. As copying records into an archive has significantly lower impact than deleting them, deletion needs to be scheduled for low impact windows. A number of software solutions are available to help control growth of mission-critical databases by automating the migration of data. Based on retention rules and policies that align with the business, these solutions can help relocate historical data to a separate, online database for fast, transparent access, or to standards-based XML documents for long-term retention.

### Step 4: Manage the new landscape and avoid future problems

Finally, the rationalized portfolio needs to be managed in an ongoing way with a focus on quality, integrity, and continuity. Companies need to implement a set of best practices to avoid future problems, maintain application quality, and prevent explosive data growth.

#### Architect for change

Consider building a simplified, flexible application platform applying standard solutions, SOA or Cloud-based delivery. A simplified system architecture can help improve productivity, cut costs, and channel resources toward innovation.



**Capture business requirements**

Ensure alignment between business and IT by capturing, organizing, and managing requirements. Establish a risk-based application delivery approach to help you assess and prioritize the highest risk, highest-priority requirements so you can optimize your development and testing efforts based on business risk.

**Ensure applications function as intended**

The sooner you detect defects, the less it costs to fix them. Starting your quality process as early as possible, and incorporating all aspects of quality into your lifecycle will help ensure that your applications work as expected, and remain reliable and secure.

**Establish a governance process**

Portfolio Management can help businesses focus on core activities while staying informed about all aspects of project and application health. It lets you govern your entire portfolio of IT projects, opportunities, and operational work in real-time with effective collaborative processes.

**Retire applications while maintaining access to data**

Building retirement and archiving practices into the application lifecycle and implementing enterprise content and data management systems would help keep application and data growth in check. Importantly, it will prevent reoccurrence of similar problems in the future.



# Business alignment is a continuous process

**Modernization, retirement, and archiving are not one-time exercises. You must build these practices into your daily operations, create clear guidelines for data retention, and use software solutions for automated record archiving, management, and retrieval.**

Successful application transformation requires solid facts, thorough analysis, verifiable metrics, and input from many different groups in the organization. It also needs a great amount of boldness, courage, and consistency. The end-goal of any rationalization project should focus on bringing a closer alignment between IT and the business. Based on this goal, you can develop your hypotheses, build a business case, and create a long-term modernization solution. It is also essential to approach application transformation from the lifecycle perspective and make it a consistent and continuous practice. Modernization, retirement, and archiving are not one-time exercises. You must build these practices into your daily operations, create clear guidelines for data retention, and use software solutions for automated record archiving, management, and retrieval. It may seem like a disruptive approach at first, but you will be rewarded with a streamlined, well-managed application landscape and operational best practices that can help your IT organization avoid problems in the future.

## Direct Benefits from Legacy and Production Archival Programs

1. Reduces the cost of maintaining a legacy application by eliminating seat-based licenses, shutting down aged infrastructure, and eliminating the need to keep up maintenance contracts for hardware and software that no longer drives revenue or supports a large user population.
2. Enables optimized consolidation, and migration of records, and data into production “go-forward” applications.
3. Enables the use of a universal records archive for multiple legacy applications and end-user populations with standardized security, lifecycle management, and defensible destruction.
4. For production applications, optimized management of application size provides performance enhancements and helps control infrastructure cost and growth. It also can result in reduced cost of supporting services - such as replication, recovery and backup and shorter maintenance and upgrade cycles.
5. Provides transparent access to both legacy and archived production records and data – which can be supported using a generic reporting tool compatible with ODBC/JDBC open SQL-based standards.
6. Helps support repeatable governance policies through automated control process for both legacy and production applications.
7. Optimizes use of existing tiered storage for production, near-term and very-long-term retention of lifecycle history that is discoverable, secure and efficient.

# Capgemini and HP help modernize your application landscape

## Wide-angle Application Rationalization Program (WARP1)

Capgemini has launched its highly successful 'Wide-angle Application Rationalization Program' (WARP1) – a breakthrough service where a senior team of Capgemini value engineers, architects, and business modelers join your team to provide you in 6-8 weeks with a rationalization design, a business case and a pragmatic roadmap: the crucial elements to kick off application transformation initiative.

For more information on WARP1 and its approach, visit:

<http://www.capgemini.com/services-and-solutions/technology/adi/solutions/warp1/>

Capgemini and HP Software have joined forces to offer our customers a comprehensive combination of lifecycle services and software solutions to help improve the agility of their application landscape and increase productivity and impact of their IT operations. Capgemini's revolutionary family of Application Lifecycle Services leverages a unique global sourcing model and continuous industrialization that can help significantly reduce your application costs. Through portfolio management, specialized global sector best practices and managing the application lifecycle from a business perspective, Application Lifecycle Services closes the circle from IT to business which boosts value and increases your potential. It helps maximize the business impact of processes and applications and provide more head room for innovation and growth.

Capgemini has developed a unique set of accelerators – including 'WARP1' - to help rationalize your application landscape. Accelerators can include solution templates, reusable objects, test scenarios and industry reference models. The accelerators use industry-leading software solutions from HP to help automate the processes of identifying and mapping relationships between applications and their underlying IT infrastructure, Project and Portfolio management, database archiving, data management and test automation. Together, the two companies deliver a comprehensive framework and solution set to help you make a leap toward application rationalization and develop strategies for streamlining your IT landscape and modernizing your portfolios.

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## About Capgemini

Capgemini, one of the world's foremost providers of consulting, technology and outsourcing services, enables its clients to transform and perform through technologies. Capgemini provides its clients with insights and capabilities that boost their freedom to achieve superior results through a unique way of working, the Collaborative Business Experience™. The Group relies on its global delivery model called Rightshore®, which aims

to get the right balance of the best talent from multiple locations, working as one team to create and deliver the optimum solution for clients.

Present in more than 35 countries, Capgemini reported 2009 global revenues of EUR 8.4 billion and employs over 100,000 people worldwide.

More information is available at

[www.capgemini.com](http://www.capgemini.com)

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## About HP

HP creates new possibilities for technology to have a meaningful impact on people, businesses, governments and society. The world's largest technology company, HP brings together a portfolio that spans printing, personal computing, software, services and IT

infrastructure to solve customer problems. More information about HP is available at

<http://www.hp.com>

