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Empowering Data Management

A SOLIX WHITEPAPER

SIMPLIFYING ENTERPRISE APPLICATION RETIREMENT WITH SOLIX EXAPPS – INDUSTRY'S FIRST APPLICATION RETIREMENT APPLIANCE

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Executive Summary

Application Retirement is part of Information Lifecycle Management (ILM) that holistically manages the enterprise application portfolio. With the recessionary economy and the consolidation of companies in 2009, large numbers of enterprises and data centers across a variety of industries are looking for ways to reduce IT expenditures. The mantra of doing "more with less" has become much more pervasive in executive board meetings to small project meetings. This along with Mergers & Acquisitions (M & A) activity across industries have been driving factors for application retirement solutions, which allow companies to retire seldom-used applications to significantly cut hardware, storage and software maintenance costs in addition to indirect expenditures such as power, space, etc. Companies who successfully complete application retirement projects must adhere to compliance regulations that require them to retain large amounts of data for years, while preserving the application context and making the data accessible from standard reporting tools.

Solix ExAPPS provides a complete hardware and software combination for Application Retirement and data preservation plug-and-play solution. Customers can plug Solix ExAPPS into a network port and power it up to have industry's first and only pre-configured Application Retirement solution.

Once candidates for Application Retirement have been identified – applications that are no longer in active use in production environment or where the modern set of applications are taking over - all the customer have to do is point Solix ExAPPS at the first candidate application using a Web browser and use "Application-Awareness" capability that is integrated into Solix ExAPPS or extend it to meet specific customizations that have been done to the applications. After that Solix ExAPPS will migrate all the application data including transactional business objects and reports, add application context to the legacy data, provide de-duplication, compression, and store in an immutable form in Solix ExAPPS. Once that is done, business users or IT can query and report on the legacy data using standard reporting tools that are used in enterprises. To meet compliance requirements, Solix ExAPPS makes the legacy data immutable to guarantee that the data cannot be modified. The above process can be repeated for the next application candidate or set of applications to make the Application Retirement process Simple and Easy to Use while also delivering an assured Return On Investment (ROI) with a very low Total Cost of Ownership (TCO). A single Solix ExAPPS Appliance can replace multiple physical servers, applications and storage in the data center thereby significantly reducing operating budgets and increasing operational efficiencies.

Introduction – The Advantages and Challenges of Application Retirement

Application Retirement is a strategic necessity for enterprises and data centers. Gartner, for instance, estimates that aging applications use 20%+ of IT resources while providing little business benefit to the organization. But IT professionals are often hesitant to retire even the most obvious candidates such as obsolescent pre-packaged installations of legacy enterprise applications, due to the perceived complexity of the situation and the need to preserve access to data objects with their full metadata to meet compliance requirements and long-term business trend analysis needs. This plus the complexity of many of the Application Retirement tools themselves often mandates a long and expensive consulting contract for the tool vendor. The result too often is that old applications, which were replaced years before, remain in the active inventory, using up expensive computing resources, demanding staff attention and retention of otherwise obsolete skills, and costing direct expenses in terms of licensing and maintenance fees. Most of all, these obsolete or legacy applications become an anchor, slowing IT's ability to align with the direction of the business and damaging its flexibility in the face of the fast-changing business and economic environment.

Eventually every application reaches the end of its useful lifetime and needs to be retired. In some cases the need to shut down a group of legacy systems is urgent and immediate, for instance:

- When migrating off mainframe hardware in favor of a less expensive hardware, SOA, or Cloud based infrastructure,
- When migrating to newer functionality such as
    - From older departmental control systems to ERP,
    - From older Oracle applications to Fusion,
    - From in-house applications to Software-as-a-Service (SaaS),
- When the vendor withdraws support,
- When the application only provides limited support for modules,
- When older applications cannot support access by new mobile platforms or remote users,
- When it becomes difficult to customize the application to meet changing business needs,
- When the last programmer with the skills needed to maintain the application retires.

Application Retirement should be a part of the plan for new application installation, with a retirement schedule set and funding allocated. Unfortunately, however, in many cases application retirement is not intrinsic to project completion. While hardware wears out, software does not, and as a result obsolescent applications do sometimes live on long past their useful lifetime. A variety of issues contribute to this:

- Many IT shops do not maintain complete software inventories, or if they do they seldom review that software to identify applications that no longer contribute more business value than their cost.

- Pulling the plug on an obsolescent application always carries political and business risks. Users often resist change to new solutions, sometimes the application may still meet a legitimate business need not supported by a replacement, and IT is often hesitant to make the experiment.

- Even if the application is seldom used, the data is still important. In today's business, regulatory compliance and legal environment, companies have to retain large amounts of data for years, and often that means the applications that generated them are also retained to ensure access to that data, which often is in proprietary formats no longer supported by more modern replacement systems.

- Multiple instances and versions of an application may hide in the inventory.

- Mergers and acquisitions often introduce applications that duplicate existing functionality but arrive with their own strong group of supporters both in IT and among users, creating strong political pressure to maintain both.

- Retirement has often been an expensive process, particularly when the data needs to be preserved in an accessible form to satisfy legal and business requirements. The result is that each application retirement often becomes an expensive consulting project.

This practice of maintaining applications long past their obsolescence, however, creates a drain on company resources in the form of both direct and indirect costs including:

- The cost of license and maintenance renewals,
- The cost of staff time, and often of maintaining obsolete skills, required to run the applications,
- The cost of hardware required to run the software,
- The cost of power and cooling and data center floor space,
- The added cost of backing up the application and its data and restoring it in the event of a hardware failure or larger disaster,
- The drag on business efficiency it creates when end-users use obsolescent software, either from choice or necessity, to access data that is otherwise unavailable.

Legacy applications also get in the way of IT agility. Today more than ever IT needs to align directly with business direction to support the organization's growth and, in today's economy, sometimes its survival. To do this, IT needs to:

- Provide more responsive systems,
- Increase flexibility to respond to changing business needs,
- Better support business processes (e.g., decrease the need for work-arounds),
- Evolve toward SOA and Cloud Computing, and
- Increase value to customers.

Obsolescent or legacy systems interfere with all of those goals. Overall, applications need to be retired when the cost of supporting and maintaining them exceeds the business value they provide. The business cannot afford to carry obsolete software. Thus IT in every organization, regardless of size, needs a systematic plan for identifying and retiring those applications that are no longer productive while avoiding or minimizing business disruption and ensuring continued access to data that is no longer maintained in production systems.

Identifying Candidates for Application Retirement: The Application Portfolio Approach

Managing the application inventory starts with establishing a portfolio approach to management. This requires an inventory of all applications running in the data center but goes beyond a mere list to create a cross-references portfolio organization that identifies key aspects of each application such as:

- Its main functions and any important limitations in functionality,
- Its licensing and maintenance costs,
- Any important limitations in its license, particularly any that might create legal complications to its decommissioning,
- Who uses the application and how often,
- The business need for the application,
- The product road map and level of vendor support,
- Other applications from the same vendor, particularly those closely linked either technically or legally,
- Costs, benefits, and risks involved in continued use of the application.

Applications can be cross referenced by all of these and any other criteria that seem relevant. In a large enterprise this can be a lengthy process, but it is not necessary to complete the analysis of the full population of applications before starting to identify retirement candidates. For instance, if the organization has multiple instances of an application, merging them into a single instance is usually obvious. Obsolete applications that are no longer vendor supported and no longer part of the production environment can also be retired early and inexpensively and are ideal candidates for Solix ExAPPS. If it has two different applications with essentially duplicate functionality, one of those should move to the "early retirement" portfolio, with adequate training and support to minimize business disruption. Overall, if 70% of the functionality of a legacy application is duplicated in more modern replacements, it should be considered for decommissioning.

Less obvious but vital questions are whether the application fits the strategic business direction of the organization, and even if it does whether it provides an important competitive advantage. If the answer to either of these questions is no, IT should investigate replacing it with a modern technology-based alternative that can provide the functionality the organization needs at a lower overall cost, while freeing staff and IT resources to support higher value applications. This is not an automatic decision, of course, and the enterprise needs to investigate the modern technology-based alternatives like Cloud candidates to be sure they provide adequate levels of service and data security, but as the Cloud offerings mature, they will become increasingly attractive as alternatives to in-house applications, even in areas central to business operations such as ERP and corporate financials, when those do not provide direct competitive advantage to the organization. In such cases, moving that functionality to the Cloud can decrease capital and operating costs and increase flexibility, making it the smart strategy when linked to a plan for retiring the in-house application.

Overcoming User Resistance

Before an application can be retired, however, IT needs to identify its users, provide them with adequate training and support in using the replacement application, and present them with a compelling case for migrating. End-users, who are always under considerable pressure to produce, never want to take time out from their busy days to train in new software. They always will prefer to stay with what they know, even if they are well aware of the disadvantages, unless the situation has deteriorated to the point that they no longer can do their jobs adequately. IT needs first to prove the advantages of the new solution to them. For instance, users who want access to data and functionality on mobile devices can be motivated to learn a new system by the promise that this will allow that access. If they believe that they will be more efficient in the long run on the new application, they will be more willing to take the time out of their schedule to learn it.

If that is not enough, then IT can offer to maintain the old system as long as the expenses involved come from the users' budget rather than IT's. Of course this will require senior management backing. And finally, IT can go to the CFO or even CEO and get a mandate on the basis that de-installing the obsolescent software will provide important business advantages to the enterprise.

Creating an Application Retirement Strategy that includes Data Migration and/or Archiving

Retiring legacy applications should not be treated as a "one off" or special activity. IT needs to partner with the business to create a formal review process designed to:

- Agree on which applications should be retired,
- Establish funding for the de-installation, and
- Define and execute retirements without causing undue anxiety, risk, or inconvenience among either IT staff or business users.

One major concern in any retirement is creating a strategy for handling the data from the application. This is complicated since technical, business, and legal requirements must all be considered. Questions that need to be answered include:

- Are the data sets still needed for the production environment, or are they candidates for archiving?
- What reports are run on this data, are they still needed, and if so how can they be provided once the legacy application is de-installed?
- If some data is still required in the business environment (e.g., to support ongoing business processes), how can that data be identified and migrated to the new application?
- What long-term legal/compliance and/or decision support requirements apply to the data, and how can those needs best be satisfied at least cost once the application is de-installed?

Data management is an important part of any retirement strategy. In the simplest situations, the application being retired has long since dropped out of the production environment, none of the data involved needs to be migrated to a replacement application, and the only question is whether and for how long to retain the data. In this case, the obvious approach is to archive the entire database to low-cost archive that is secure and provides standard access to the data in case a request for data comes-up.

In the more complex, and more common scenario, at least some data from the legacy application needs to be migrated to the replacement. This inevitably requires data structure conversion to the architecture of the new database, and also inevitably this is complicated by several issues:

- Repairing corrupted data,
- Maintaining data accessibility during conversion,
- Protecting data from damage,
- Guaranteeing data is not altered by the conversion process,
- Planning for downtime, including unexpected downtime,
- Managing the priority of data migration versus other projects,
- Managing network and application performance issues caused by the extra load on systems during the conversion,
- Budgeting overtime costs if the migration is done over weekends, and
- Mapping data to the new application.

Given the complexity of the migration process, the less data that requires migration the better it is. Often IT's instinct in such cases is to convert the entire database, which in the case of most legacy systems can be huge. Much of that data, however, is not required for the production environment and will only create problems both during the conversion process and afterward, when it will have a negative impact on the efficiency of the new system without adding business value.

Therefore, the first step in the process should be to remove and archive all data not needed to support current production business requirements. After than the remaining data should be cleansed to remove data issues, followed by data conversion using either a tool built into the new application, for instance when moving from a PeopleSoft ERP system to Oracle Fusion, and finally a clean-up of any remaining data issues.

Solix ExAPPS – Industry's first Application Retirement Appliance

The Solix ExAPPS Appliance is an integrated set of server, storage and software components - Database with Massive Compression capabilities (90% data compression), Application Server and pre-configured Solix EDMS Application Retirement engine with Fast Query & Reporting Tools - all bundled into a single device.

Solix ExAPPS provides a complete hardware and software combination for Application Retirement and data preservation plug-and-play solution. Customers can plug Solix ExAPPS into a network port and power it up to have industry's first and only pre-configured Application Retirement solution.

Most medium-to-large sized enterprises and data centers have "low hanging fruit", old applications that are no longer used in production situations and that are isolated on individual servers – and which often came prepackaged on them. Solix ExAPPS comes with the complete suite of pre-built, pre-tested, pre-configured to handle retirement of these first target applications without expensive consulting. It can simply be plugged into a port on the corporate network. The customer then launches a Web browser to connect ExAPPS to a targeted legacy application to start the retirement process. Solix ExAPPS will migrate, de-duplicate, compress and secure the data on the Solix ExAPPS appliance itself. When the process is finished, the obsolete application can be shut down and the associated hardware either repurposed or retired, while Solix ExAPPS provides view-only access of the legacy data, thereby meeting compliance requirements for a guarantee that the data remain unchanged. The appliance can then be pointed to the next retirement candidate. Eventually the single Solix ExAPPS appliance can replace multiple physical servers in IT departments or on the data center floor.

Solix ExAPPS can pay for itself several times over by allowing IT to shed multiple obsolete applications to save money and allow reassignment of staff, servers and storage resources to other applications, clearing the way to leverage modern applications, technologies and infrastructure such as Cloud Computing and Service-Oriented Architecture (SOA). The first step is to develop a portfolio approach to managing applications and partner with business users to identify which applications are candidates for retirement. Then it needs to develop a methodology for retiring these applications, training remaining users in more functional replacements, and archiving data that needs to be retained systematically. Such a method assures users of improved support for their business needs and ensures that the business can meet compliance and other legal data retention requirements as well as internal needs. And while this eventually requires a systematic approach, the beauty of the Solix ExAPPS application retirement appliance is that it can allow IT organizations to start by targeting boxes on the data center floor or IT departments that are only being maintained to satisfy compliance and business research needs, allowing them to save costs in their budgets that then can be repurposed to support the more comprehensive portfolio-based program and eventually the higher costs of the more complicated retirements.

Figure 1 (see below) shows the components of Solix ExAPPS appliance. All these components are pre-tested, pre-configured and pre-built to streamline and automate Application Retirement process in enterprises. In the sections below we will look at specific functionality delivered by Solix Enterprise Data Management Suite (EDMS) Application Retirement engine that is built into Solix ExAPPS appliance.

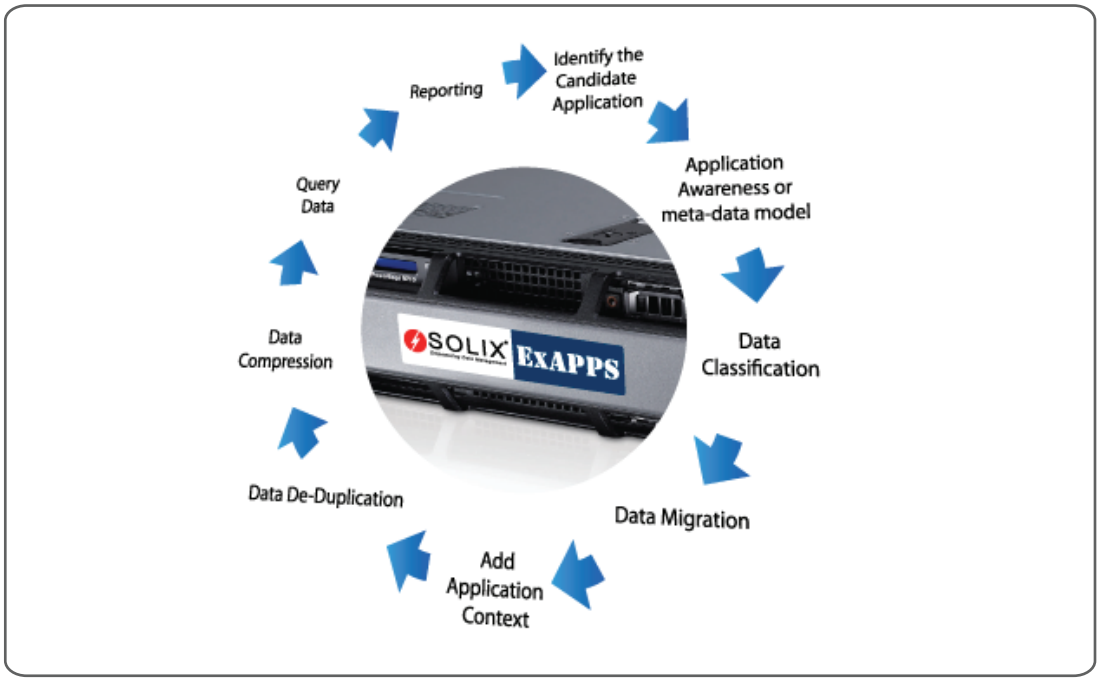
Figure 1.

Solix EDMS Application Retirement

Solix EDMS Application Retirement is an Application Portfolio Management Tool (within the Solix ExAPPS appliance) that helps enterprises retire old and scarcely used applications. Solix EDMS Application Retirement helps them to introspect the legacy data assets arising out of these retired applications, archive the legacy data on which queries and reporting can be performed, and ultimately retire the hardware and software platforms/databases that were used to support these legacy applications.

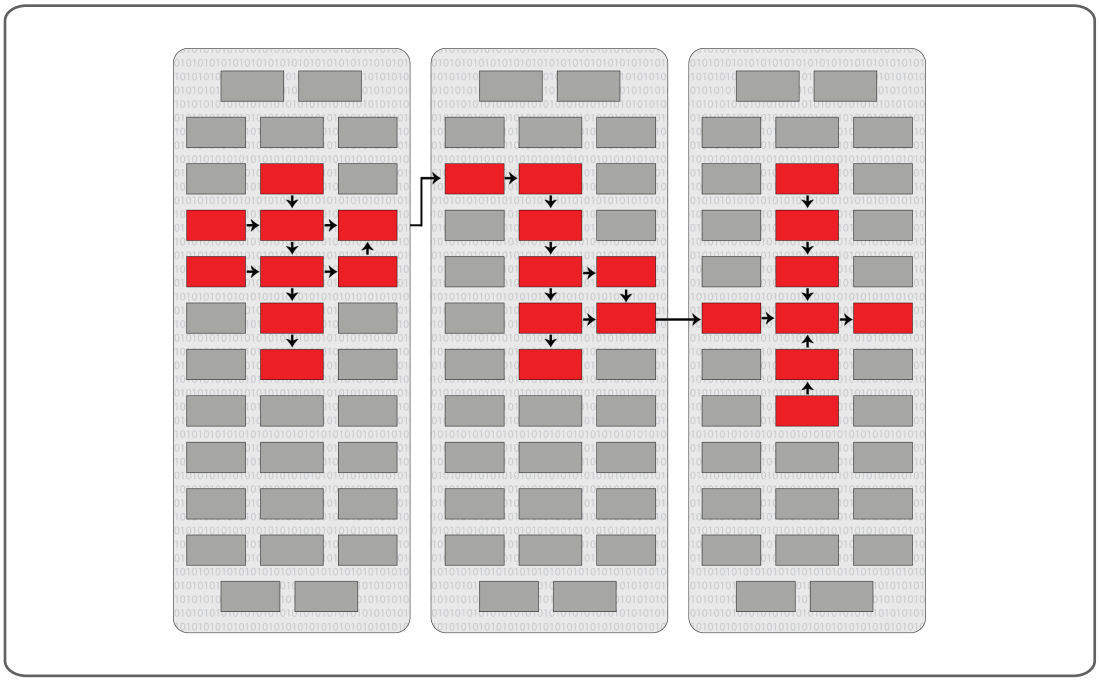
Solix EDMS Application Retirement offers a systematic technology approach (see Figure 2) to enterprises to retire the legacy applications and manage the legacy data. Once the application(s) that need to be retired or migrated are identified, Solix EDMS Application Retirement helps to follow a logical application retirement process for decommissioning the applications. The logical process consists:

Figure 2.



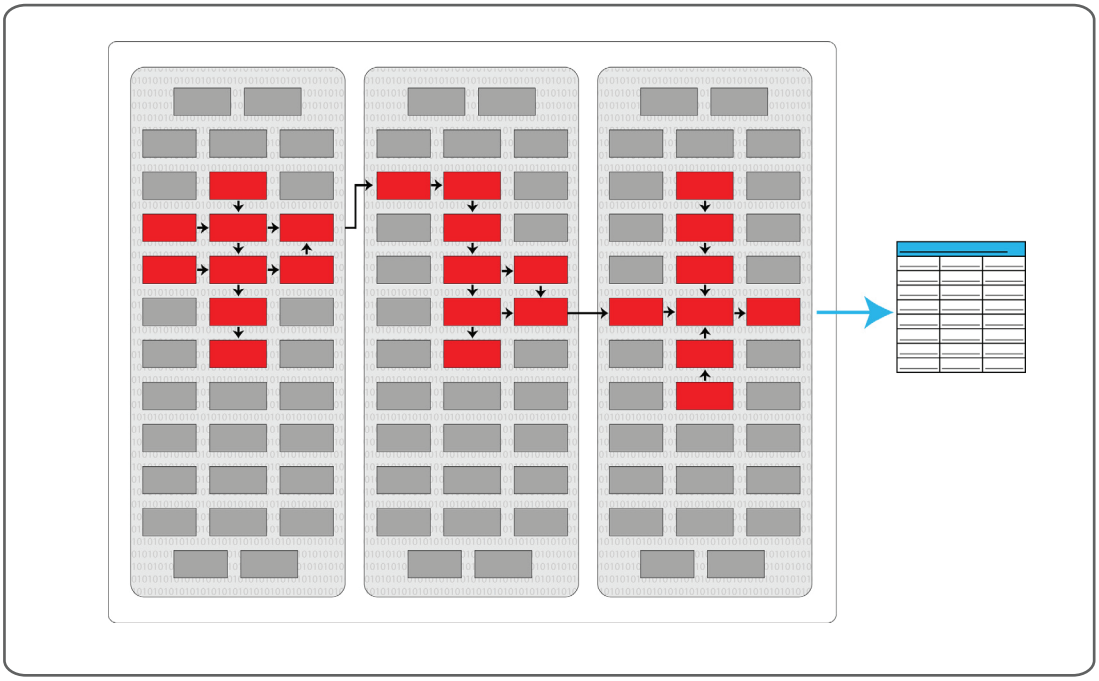
- Application introspection for data classification.
- Classification of data based on data retrieval service level requirements (Frequent, Occasional, Infrequent) using a set of business rules or policies.
- Solix EDMS Application Retirement allows legacy data to be migrated as transactional business objects or "As-Is" table structures or a combination of both. For transactional business objects Solix EDMS Application Retirement makes use out-of-box "Application-Awareness" capability to identify the transactional business object (see Figure 2) that can be spread across several tables in the application database.

Figure 3.



- Once the data has been identified Solix EDMS Application Retirement prepares the data for bulk-processing (See Figure 4).

Figure 4.



- Solix EDMS Application Retirement leverages the core Data Management Services of Solix EDMS to migrate the identified data from applications that are going to be retired or decommissioned. Data migration can be done:
    - Across applications: Legacy, Pre-Packaged, and Custom applications, while allowing hanges to chart of accounts, organization structure, costing methods, etc.
    - Across operating systems: While allowing changes to Technology Stack, Middleware, etc.
    - Across databases: While carefully accommodating changes to Data Types.
- Solix EDMS Application Retirement migrates the data into Solix Secure Archive (see Figure 5).

Figure 5.

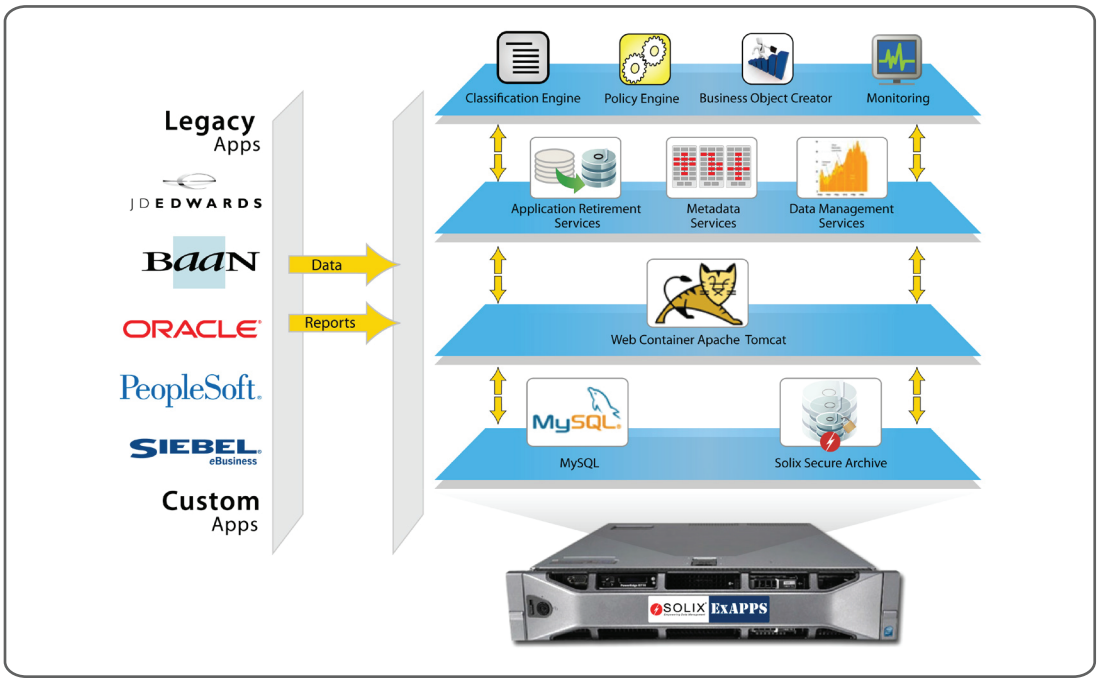
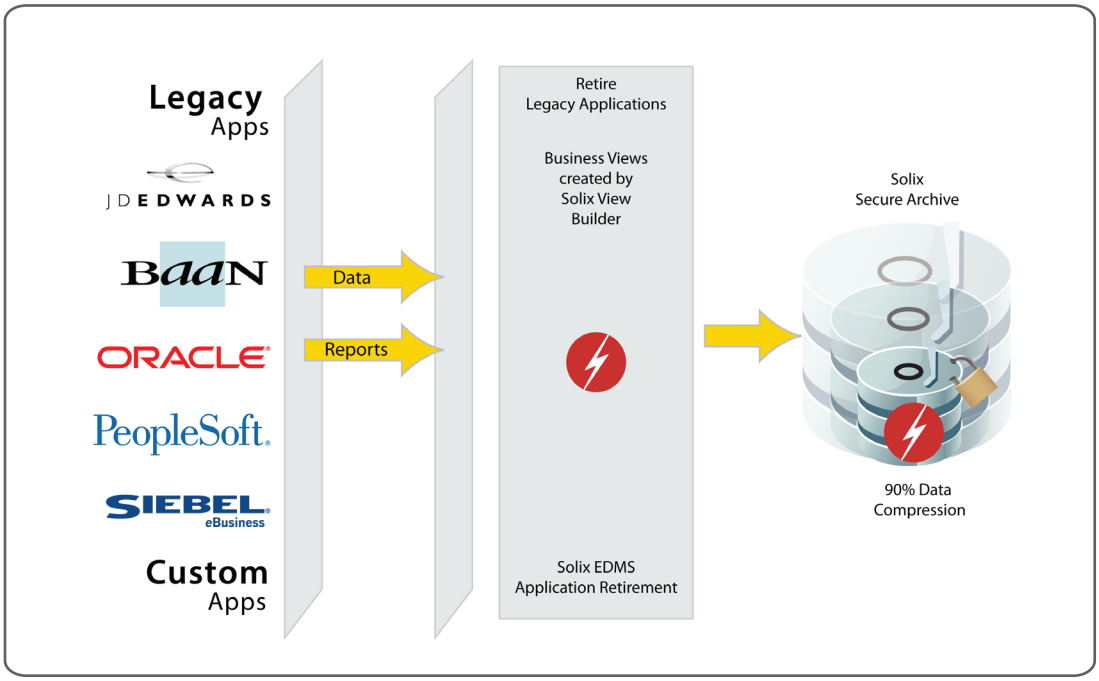


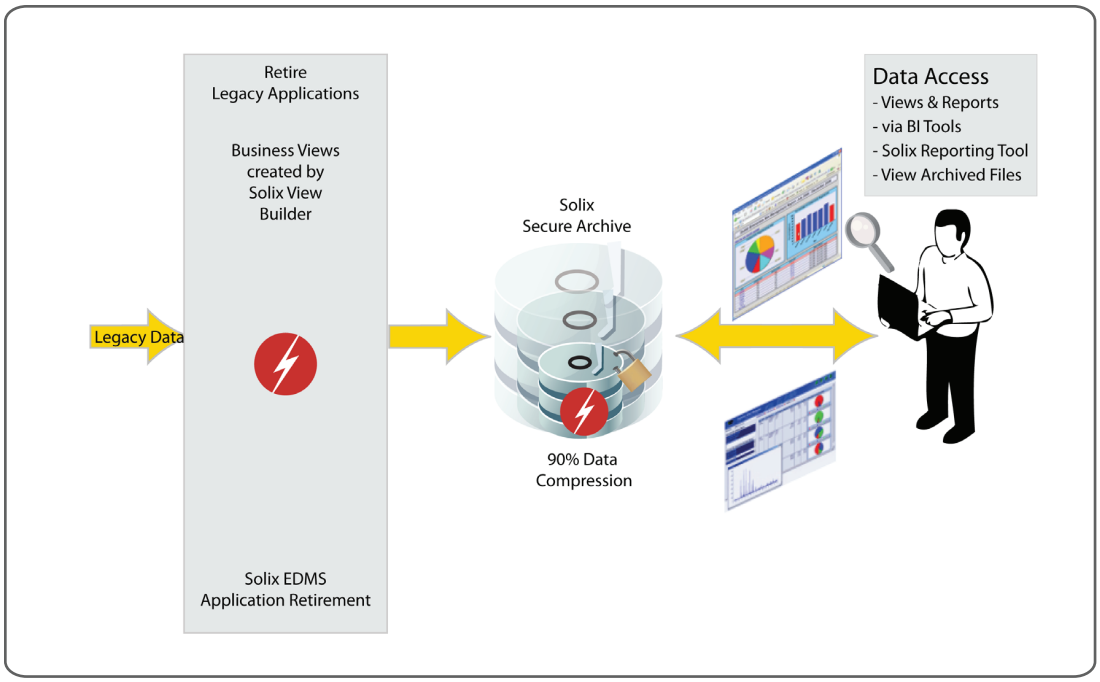
Figure 6.



- Solix Secure Archive (see Figure 6) which is pre-built, pre-configured and pre-tested into Soli ExAPPS comes with Solix EDMS Massive Data Compression (MDC) and Solix EDMS Fast Query & Reporting (FQR) Tools to manage the legacy data.
    - Solix EDMS MDC will dramatically increase the ROI for application retirement by providing capabilities to archive legacy data through automatic data de-duplication and massive compression exceeding 90%
    - Solix EDMS FQR Tools will allow multi-user/multi-query capabilities on massive amounts of compressed data without need for de-compression; this will better serve the need for improved compliance on historical data that is managed under lifecycle policies with fast query and reporting capabilities and a far improved TCO.
    - Solix EDMS Secure Archive will help enterprises meet long term data retention requirements where the data assets from retired applications are strictly and securely managed under policies.

As discussed in earlier sections of this guide, one of the issues of Application Retirement is losing the application context once the application is retired or decommissioned. Solix EDMS Application Retirement addresses this issue with Solix EDMS View Builder that allows creation of business views for the migrated data to preserve the application context and also provide capabilities to query and report either on tables or business objects (See Figure 7).

Figure 7.



Benefits of Solix ExAPPS Appliance

- Solix ExAPPS is the industry's only pre-configured, pre-tested and pre-built Application Retirement appliance with right set of hardware and software components to get enterprises jump started on application retirement projects.
- Solix ExAPPS is integrated, tuned and optimized for reliability and performance and built as a single-purpose appliance which is hardened for security.
- Solix ExAPPS ease-of-use, simple deployment and management provides lower total cost of ownership and immediate return on investment where enterprises can see significant cost reduction or elimination for hardware, storage, software maintenance, power, and IT resources.
- Solix ExAPPS will dramatically increase the ROI for Application Retirement by providing capabilities to archive legacy data through automatic data de-duplication and massive compression exceeding 90%. With 90% data compression on original data size with the new module of Solix EDMS MDC, this translates to at least 30x savings on storage costs.
- Solix ExAPPS provides Fast Query & Reporting capabilities on massive amounts of compressed data without need for de-compression; this will better serve the need for improved compliance on historical data that is managed under lifecycle policies with fast query and reporting capabilities and a far improved TCO.
- Solix ExAPPS provides a complete solution stack that can be supported by a single vendor (SOLIX).

- Solix ExAPPS supports heterogeneous IT infrastructure which includes multiple databases, pre-packaged applications, custom and legacy applications, and industry standard reporting tools.

- Solix ExAPPS manages legacy data securely using Solix Secure Archive which can maintain the immutability of data for historical data compliance.

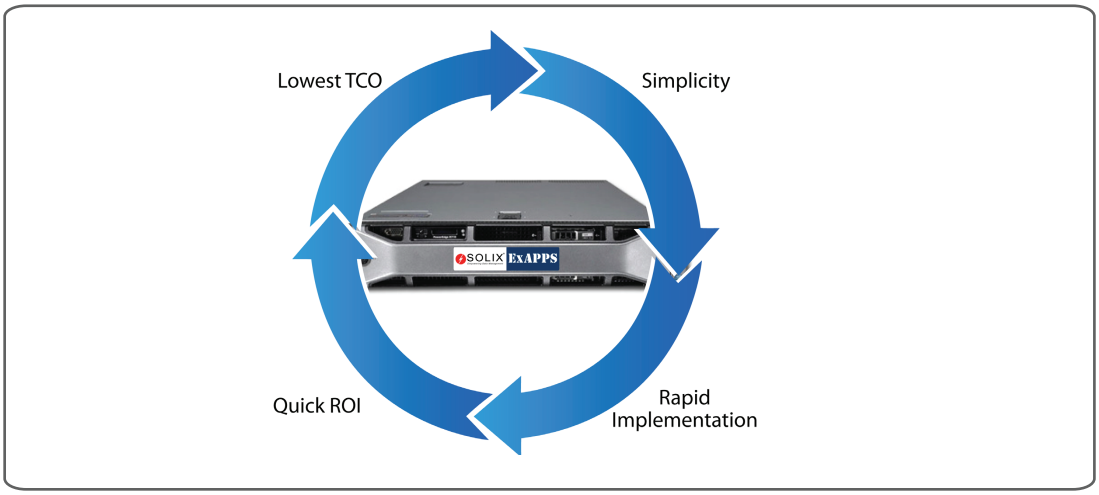
- In order to ensure compliance with regulatory mandates, enterprises need to address both data retention and data integrity requirements. With pre-conifgured, pre-tested and pre-built, Solix EDMS Application Retirement and Solix Secure Archive in Solix ExAPPS appliance,enterprises can retire legacy applications and consolidate their IT infrastructure without the risk of data loss and manage the lifecycle of data with corporate policies.

- Traditional Application Retirement moves data to a RDBMS or a file system like XML or CSV where data can be modified unless stored in a WORM device. With Solix EDMS Secure Archive in Solix ExAPPS, customers can leverage existing application storage infrastructure and at the same time maintain immutability of historical data for compliance.

- A systematic approach is the key element of the Solix ExAPPS appliance with Application Retirement methodology and measurable performance milestones, which can be tailored to meet enterprises pre-established standards. To provide an effective enterprise evolution strategy, Solix EDMS Application Retirement helps enterprises identify the right road map and strategy to retire or decommission legacy systems at lower costs and leverage the benefits of years of migration experience on multiple platforms that reduce time to market and maximize productivity.

- The need for migration of applications in enterprises arises from changes in business demands or technology challenges to improve operational efficiency and to manage risk.Addressing the growing need of enterprise application networks to migrate data across applications, protocols and proprietary data structures, Solix ExAPPS Application Retirement appliance delivers an intelligent enterprise Application Retirement solution.

Figure 8.



Conclusion

Gartner says that "On average 10% of the applications in an unoptimized portfolio are candidates for retirement. And additional one-third can require migration or rationalization."

Enterprises are looking to (i) significantly cut costs by retiring legacy hardware, eliminating maintenance and support costs, reducing administrative costs (ii) consolidate applications resulting from mergers and acquisitions, application standardization and enterprise application upgrades and (iii) meet regulatory compliance requirements such as data retention, e-discovery requests and warranty fulfillments.

All the above business drivers are demanding a need for application portfolio management in enterprises. Solix ExAPPS provides a systematic approach to application retirement that allows enterprises to identify data based on data retrieval service level requirements, migrate the data to an archive that best meets the access requirements and preserve the application context. On top of this, Solix ExAPPS Application Retirement appliance provides a better management of legacy data where enterprises benefit from significant reduction in storage costs, meet compliance requirements and leverage existing IT infrastructure in enterprises.

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