HP StorageWorks Reference Information Manager for Databases

An HP database archive solution

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Customer pain points

Do your production databases have increasingly large stores that are causing performance degradation? Are you unable to predict what the database support model will look like from an infrastructure perspective? Unmanaged data can subject businesses to the “ripple” effect, which causes application performance degradation, difficulty moving data across tiers, increasing recovery times for failures, barriers to IT consolidations, multiple environments that replicate data, and increasing numbers of mission-critical databases.

Are your application consolidations and upgrades hampered by disorganized, poorly managed databases? This can result in a significant amount of time spent in reviewing application integrity, only to find that application upgrades are difficult, new releases are difficult to install, and it is a struggle to determine how to maintain obsolete applications that are used to read data that is old, but still needed.

Summary

HP StorageWorks Reference Information Manager (RIM) for Databases, an Information Lifecycle Management (ILM) solution, controls database growth to improve performance, reliability, and overall cost of ownership. HP RIM for Databases is a software suite that helps organizations identify inactive data in their mission-critical application databases and relocate it to the appropriate class infrastructure—both servers and storage—to meet desired service levels. Business users retain access to archive data for both near-term and long-term requirements while meeting regulatory and compliance standards.

By reducing the size of the production database, RIM for Databases significantly boosts application performance, improving application stability, and potentially reducing application costs.

RIM for Databases is a software solution that allows customers to take advantage of new, complex database features without modifying custom code, saving developer costs. Integration and upgrades do not require coding efforts, and can be managed by the platform through completion of some simple tasks.

Today and in the future, HP RIM for Databases controls information growth, improves application performance, streamlines database operation and disaster recovery, optimizes the infrastructure by tiering on appropriate class servers and storage, and meets user and compliance requirements, all while lowering the TCO.

Key contributors to data growth

There are many causes for unmanaged data growth and many key contributors to data growth. Three major causes are operational needs, regulatory compliance, and legal obligations.

Operational needs

Enterprises retain historical records for operational reasons such as business productivity and corporate intellectual property protection. Other causes for data growth include the need for non-production replicas for test and development and the increased tracking of relationships among applications such as Oracle® and SAP. In addition, the consolidation of regional or departmental applications into a single global instance or integration of merged or acquired businesses results in a smaller number of larger application databases.

Regulatory compliance

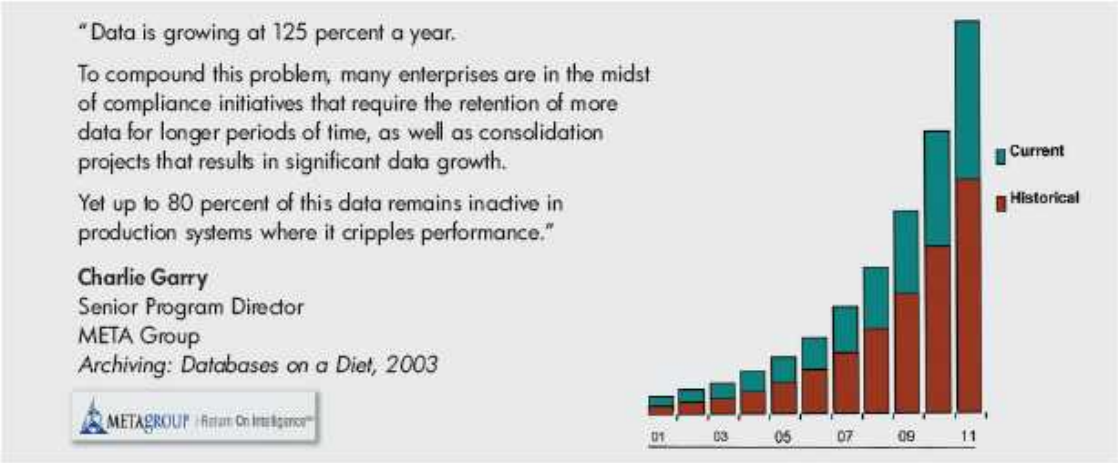
There are more than 10,000 regulations in the United States alone, some with retention periods as long as 30 years. Complying with these regulations is driving many firms to retain complete and accurate business records, often for longer times, and to apply record retention policies to electronic records. These changes in retention policies contribute to substantial increases in storage requirements.

Legal obligations

Organizations must consider the impact of legal obligation associated with litigation. Juristic courts increasingly demand electronic records in pre-trial discovery orders. Record deletion policies and practices can greatly impact the cost of producing these records, and failure to produce them, for example, after a premature database purge, can lead to adverse judgments. These potential costs and legal risks are driving many companies to move away from early deletion policies and retain complete business records for longer periods.

Why is database growth important?

Figure 1. Database growth prediction



According to the Meta Group, annual data growth is up to 125% and inactive data is reaching 80%, making application data management a significant IT cost center. This trend shows no signs of slowing. Data growth has ripple effects on IT and throughout the enterprise. The most critical are:

- Performance degradation—As data grows, applications and underlying databases must process more data, overloading database servers. Performance deteriorates. Users must work around performance problems often by limiting access.
- Escalating server and storage costs—Although raw storage pricing is falling 30 to 40% per year, the application data growth rate of 125% quickly outpaces the decreases in storage prices. Additionally, raw storage prices also do not accurately reflect the true cost of storage. As one CIO observed, "Each time I buy storage, it requires more software, backup, array, and bandwidth, not to mention resources to plan, test, and tune the upgraded configuration and downtime during the upgrade."
- Reduced application availability—With more data to back up, restore, and replicate, maintenance windows increase, making it more challenging to meet 24 x 7 availability requirements, and longer downtime is required for application upgrades.

Existing attempts to manage data growth

As application data grows out of control, the cost of IT infrastructure soars, while system performance slows to a crawl. Your production databases have increasingly large stores that cause performance degradation. The conventional response has been to repeatedly increase server and storage capacity.

Unmanaged data can subject businesses to the "ripple" effect, which causes application performance degradation, difficulty moving data across tiers, increasing recovery times for failures, barriers to IT consolidations, multiple environments that replicate data, and increasing numbers of mission-critical databases. This approach is only a temporary fix, and its ripple effects can be extremely costly. The "hardware treadmill" only defers what is really needed: a permanent solution that addresses the root cause, unmanaged data growth.

It is not the lack of hardware; it is not network traffic; it is not slow front ends—the main performance problem in the majority of database applications is the accelerating growth of the historic, inactive data. Accelerating database growth is expected to continue unabated.

If your company relies on data-intensive, mission-critical business applications, unmanaged database growth can have a direct impact on your bottom line as you risk losing customers, frustrating users, and missing new revenue opportunities. In addition, your company could face legal and compliance risks through the inability to access compliance pertinent data.

Unmanaged database growth degrades performance and limits the availability of mission-critical applications. To maintain service levels, enterprises are spending millions of dollars on hardware and software upgrades and maintenance fees. This tactical approach to what is really a strategic problem provides only temporary relief and offers diminishing returns.

The solution: HP StorageWorks RIM for Databases

To seize control of the situation, today's smart IT organizations take an Information Lifecycle Management (ILM) approach, dedicating high-end resources to production data while relocating historical transactions to online archives stored on more cost-effective servers and storage classes. Online archiving is an indispensable key to managing the application data lifecycle while ensuring regulatory compliance.

HP RIM for Databases manages accelerating data growth by relocating closed transactions and other infrequently accessed data to an online, easily accessed archive database, significantly reducing the size of the production system and improving application performance. In addition, it helps control database size and composition, efficiently addresses corporate governance issues with a standards-based XML archive, intelligently monitors systems, and forecasts and models data growth to provide real-time application performance monitoring.

How it works

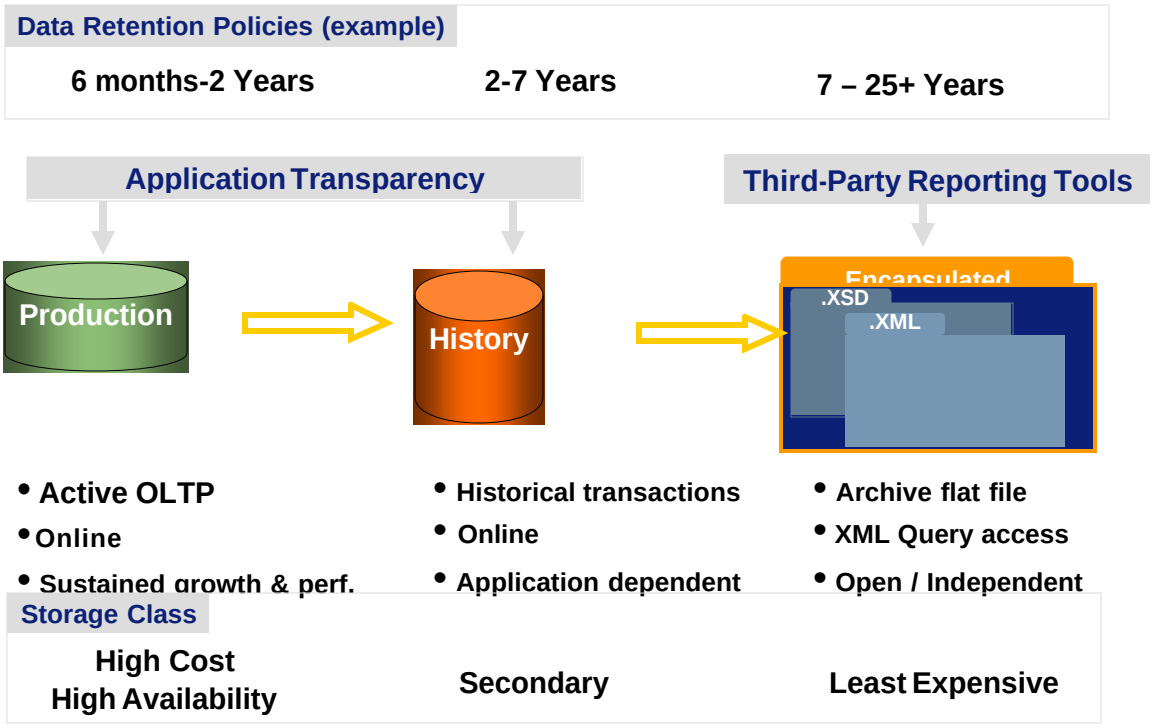
Using a lifecycle approach, HP RIM for Databases:

- Identifies inactive data based on activity history and retention policies
- Relocates inactive business transactions to less expensive storage
- Retains application transparency providing online, real-time user access to a combined view of production and archived data through native applications and reporting interfaces
- Automatically generates database subsets to give you complete control of the size and composition of your development database instances
- Efficiently addresses corporate governance issues with a standards-based XML archive that stores aged data as complete business transactions

By reducing the size of the production database, RIM for Databases can boost application performance by as much as 70%, improve application stability, and reduce application environment costs by millions of dollars per year.

Figure 2. A new approach to managing data

Enabling Data Aging Strategies



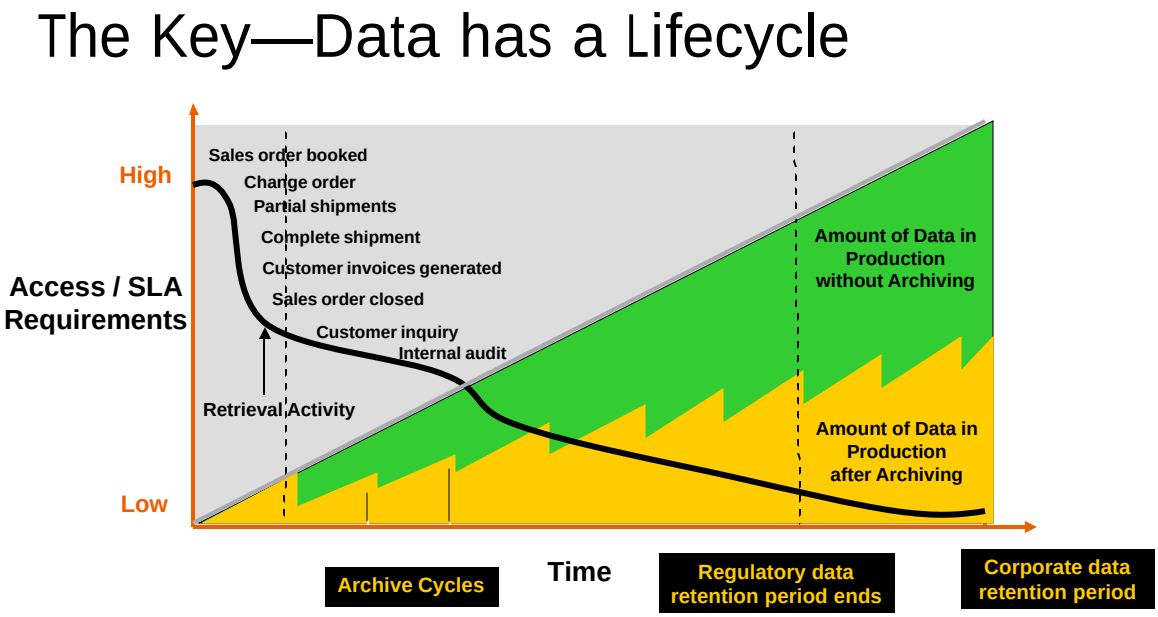
Key features

Unlike traditional data management and storage solutions, HP RIM for Databases software is built from the ground up to be "application-aware," with data stored as complete business transactions. To help reduce production database size, improve system performance, and lower IT infrastructure costs, only HP RIM for Databases offers a complete set of application-aware archiving features:

- Combined view of data—Provides real-time, transparent access into both production and archive data for combined reporting.
- Policy based—Uses policy- and constraint-based definitions to create and enforce data retention and archiving policies.
- Data parity—Maintains data parity so archive data has the same structure as the production data to ensure compatibility and integrity.
  - Survivability—Archives historical data in survivable format that remains usable even beyond the lifetime of the production system

  - Sustainability—Remains independent of source application, file system, operating system, and platform
  - Real-time, standards-based access—Provides archive access by way of xQuery, the open XML standard query language supported by thousands of third-party vendors
  - Relationally intact subsets—Generates subsets that retain data integrity and relationships for consistent business processes
- Database reorganization—Supports database table reorganization to reclaim allocated space for improved storage efficiency.
- Restatement—Supports general ledger restatement entries as required by regulations such as generally accepted accounting principles (GAAP).
- Patches and upgrades—Monitors third-party patches and upgrades, and evaluates the impact on archived data. HP RIM for Databases provides parallel patches based on patch impact capture.
  - No user training required—Uses existing application interfaces, forms, and reports to access production and archive data through one point of entry.
- Database support—Supports Oracle E-Business Suite 10.7, 11, and 11i (financials, human resources, manufacturing, and customer relationship management) and PeopleSoft ERP 7.x and 8.x.

Figure 3. Predictable, sustainable performance



Get the maximum value from your information at the lowest TCO at every point in the information lifecycle.

Key benefits

HP RIM for Databases is a significant enabler of the HP Adaptive Enterprise, delivering greater simplicity, agility, and value across your organization. It can make your business—not just your IT—more successful. Imagine adding partners to your supply chain securely in days instead of months or doubling the pace of new product introductions without sacrificing quality.

The HP database archive solution provides the following benefits.

Simplicity

Software solution that will safely manage infrastructure and data growth over time

- Significantly improves application performance
- Allows transparent access to both active and archived data
- Reduces backup time and recovery windows

Agility

Enables customers to quickly adapt to changing business needs caused by exploding database growth

- Rapid integration with pre-defined AppsPacks into Oracle E-Business Suite and PeopleSoft plus easy integration into other standard or homegrown applications through the Designer Tool
- Uses an ILM and tiered-storage approach for efficiently managing database applications
- Infrastructure optimization by tiering on appropriate class servers and storage
- Retires but does not destroy data that is no longer used, while still providing query access to it
- Streamlines database operations through management of data throughout the entire lifecycle

Value

Overall database infrastructure tiering ensures that you get the maximum value from your information at the lowest TCO at every point in the information lifecycle.

- Identifies data that can be archived and moves it to the appropriate tier while maintaining transparent access to it
- Stores unused but required data in an open XML format so that it can be easily queried
- Monitors the database through the Analyzer and identifies where data is to be archived, providing both current and historical views of data

System recommendation

HP RIM for Databases solution supports the following environments:

Operating systems

- HP-UX (PA-RISC) 11i v1, 11i v2
- HP-UX (HP Integrity) 11i v2
- Red Hat ES 3.0 Linux (HP Integrity) (Reference Linux environment; additional Linux distributions can be supported)
- Solaris 9, 10
- AIX 5.2
- Red Hat ES 3.0 Linux (x86) (Reference Linux environment; additional Linux distributions can be supported)

Oracle Database

- Oracle 9i Release 2 (9.2.0.6 and above)
- Oracle 10g Release 2 (10.2.0.2 and above): with Oracle E-Business Suite only

Sybase Database

- Sybase ASE 12.5 (12.5.2 and above)
- Sybase ASE 15.0

Storage Adapters for Encapsulated Archive

- HP StorageWorks Reference Information Storage System (HP RISS) 1.4/HP StorageWorks File Migration Agent (FMA) 2.0
- HP StorageWorks File System Extender (FSE) 3.2
- EMC Centera

HP RIM for Databases Version 5.1 will include:

- Scalability and Very Large Database (VLDB) Support
- Increased Module coverage for Oracle E-Business and PeopleSoft

Within the 5.1 release, products within the RIM for Databases portfolio now have new names:

- RIM for DB Live Archive (formerly known as RIM for DB Relocater)
- RIM for DB Open Archive (formerly known as RIM for DB Encapsulated Archive)
- RIM for DB Ready Subset (formerly known as RIM for DB Subcopy)
- RIM for DB Archive Monitor (formerly known as RIM for DB Analyzer)

For more information

For more information about these and other solutions from HP, call 1-800-STORWORK (1-800-786-7967) or visit the following websites:

- http://www.hp.com/go/rim4db
- http://www.hp.com/go/storageworks

To learn more about HP, visit www.hp.com.