



# WHITE PAPER

## **IBM's System Storage DR550: Enabling Compliance in the Financial Services Industry**

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# The Intersection of Information Growth and Compliance

There are well over 10,000 worldwide rules and regulations that organizations must abide by in order to lawfully conduct business across the globe. Because much of the world's economy revolves around a well-defined monetary system, many of these rules apply to the financial services industry. As such, financial services organizations (e.g., broker/dealers, consumer and commercial lenders, insurance companies, etc.) face a myriad of edicts.

Laws regarding how a bank incorporates, what records a firm must create, the amount of capital needed to make certain loans, etc. must be taken into consideration when operating in today's business climate. In addition, because many financial organizations are involved in multiple aspects of banking, compliance can present unique challenges. Regulatory bodies such as the Securities and Exchange Commission, the Financial Industry Regulatory Authority and the U.S. Attorney General exist in part to ensure and enforce compliance (and those are just the U.S. based agencies / enforcers). Failure to comply can have significant consequences for financial organizations—ranging from hefty fine to the loss of brokerage licenses.

The good news is that most financial services firms (regardless of their size or revenue) have some type of business processes in place to help them deal with all these rules. The bad news is that the regulations are rarely prescriptive, leaving Compliance Officers in the difficult position of having to 1) interpret the rules and 2) determine the best business processes and supporting technologies to put in place to address them. Therefore, financial services firms run the risk that they investing too much or too little in their compliance efforts.

Regulatory bodies often conduct audits that involve information gathering, interviews and business process reviews. Additionally, because financial services firms deal in highly litigious matters such as lending and equity underwriting, there is a high chance that organizations will have to comply with a different set of policies. The Federal Rules of Civil Procedure (FRCP), for example, dictates the steps that must be followed in civil cases, including the process of filing a matter and discovery proceedings. This means corporate counsels within financial services firms have to comply with a broader set of rules, which includes managing electronically stored information during discovery.

A new compliance issue for financial services organizations is the growing volume of digital content. The increased use of online trading sites, electronic loan applications and customer e-mails creates more digital content to process, retain and manage. IT departments must ensure that systems are available to run revenue-generating applications, facilitate compliance-related business processes and meet growing data demands.

Because so many regulations involve the creation, retention and preservation of business records, information storage solutions are often the first place compliance officers and corporate counsels look to improve the overall compliance process. Many of today's financial services records, such as e-mail correspondence with brokerage customers or images of checks, are born digital. As such, organizations can retrofit existing paper-based records management programs to capture and print out these records or implement scalable online storage systems that maintain information electronically. IBM System Storage DR550 is a unique product that can integrate disk and tape in a single archive—which means it can scale significantly and cost-effectively. Organizations can keep data online for extended periods of time, which can have huge timesaving benefits in the event of an audit or discovery request.

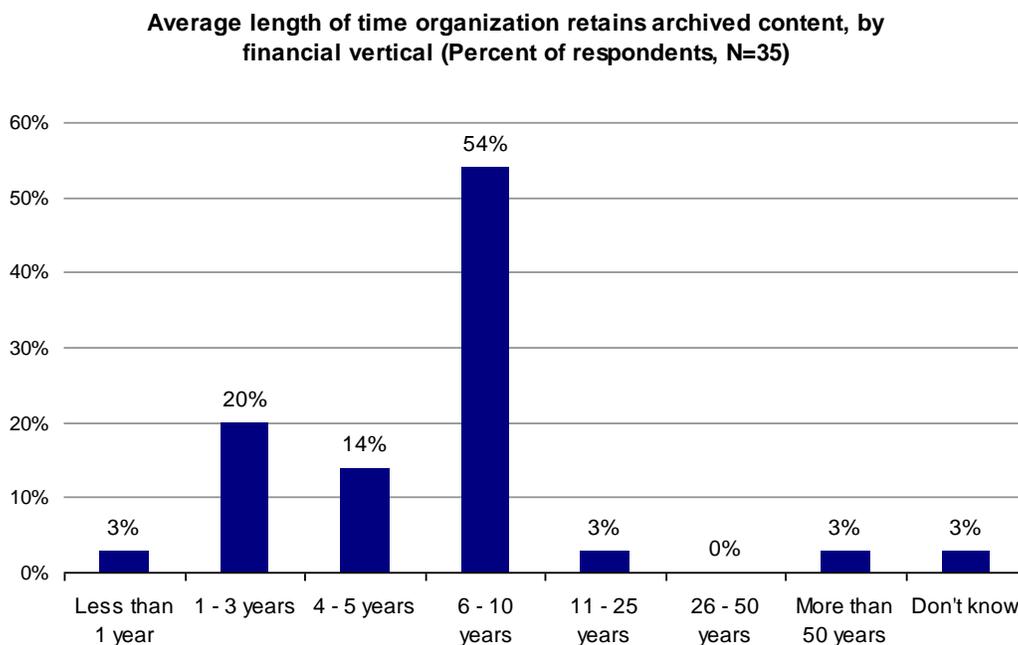
IBM's DR550 has a number of features—such as support for disk, tape and optical in a single system—that can help financial services customers immediately address compliance-related issues. This paper examines some of the key international regulations and challenges financial services organizations face and how IBM's DR550 system can be implemented to make an immediate impact on compliance and business processes.

# Financial Services Regulations

## Simplifying the Rules from a Storage Perspective

Despite such a wide variety of permutations of laws, enforcers and penalties, it is relatively simple to improve the overall compliance process by implementing the right storage system, for two reasons. First, most regulations require financial services organizations to create business records as an audit trail. Business records can include equity trade confirmations, a car loan application, e-mails between a broker and a client, or savings account withdrawal activities. Due to the variety of these business records, the edicts spell out which entities must follow a particular rule. Secondly, regulatory rules dictate how long certain records must be kept. In some cases, the retention period may be 6 months, while others can last for thirty years—the common length of a home mortgage in the United States. The average retention period for financial services organizations, as shown in Figure 1, is between 6 and 10 years.

**FIGURE 1. AVERAGE LENGTH OF TIME ARCHIVED CONTENT IS RETAINED – FINANCIAL**



Source: ESG Research Report: 2007 E-mail / Database / File Archiving Surveys, November 2007

Creating more information and storing it for long periods of time can be expensive if an organization does not have an archive strategy and the proper storage solutions supporting it. Fifty percent of financial services firms archive data primarily to meet compliance needs. Storage systems that can scale to significant capacities and assist in the preservation of information can reduce compliance's overall cost while increasing effectiveness.<sup>1</sup>

## SEC Rule 17a-4 and Beyond

Most record retention regulations impacting financial services firms spell out what business records need to be created and how long they must be kept. The rules do state the format in which the records must be kept. This is a rarity as many regulations are not prescriptive in telling an organization how to comply. The rules simply state what must be done—allowing multiple methods and processes to be used in the compliance processes.

<sup>1</sup> ESG Research Report: 2007 E-mail / Database / File Archiving Surveys, November 2007

The only prescriptive record retention regulation is 17CFR Sec. 240.17a-4; commonly referred to as SEC Rule 17a-4. In summary, this rule stipulates that a broker/dealer must retain certain business records on non-erasable, non-rewriteable storage media. There have been several SEC-issued interpretations on what non-erasable, non-rewriteable media is and magnetic tape, optical and disk systems can satisfy this requirement. A combination of hardware and software may also be used to meet this requirement. A non-erasable, non-rewritable format helps ensure the integrity and authenticity of the business record. Additionally, the broker/dealer has to keep an additional copy of business records, as well as the records' indexes, in a separate location (See Appendix A for more details on SEC Rule 17a-4.)

The SEC and NASD have their own records and bookkeeping requirements, but they both defer to the SEC 17a-4 on how this data must be stored. The Investment Advisor Act of 1940, the Investment Company Act of 1940 and the Home Mortgage have record creation and retention requirements that apply to a variety of financial services organizations (Figure 2). None of these require that the records be kept in any specific format.

**FIGURE 2. SELECT SECTION TITLES FROM INVESTMENT ADVISOR ACT AND INVESTMENT COMPANY ACT**

Regulation	Applicable Section Titles / Descriptions
17CFR Sec. 275.204-2 (Investment Advisor Act of 1940) <sup>2</sup>	Books and records to be maintained by investment advisers.
17CFR Sec. 270.31a-1 through 3 (Investment Company Act of 1940) <sup>3</sup>	<ol style="list-style-type: none"> <li>1. Records to be maintained by registered investment companies, certain majority-owned subsidiaries thereof, and other persons having transactions with registered investment companies.</li> <li>2. Records to be preserved by registered investment companies, certain majority-owned subsidiaries thereof, and other persons having transactions with registered investment companies.</li> <li>3. Records prepared or maintained by other than person required to maintain and preserve them.</li> </ol>
12 CFR Sec. 203.4 (Home Mortgage Disclosure Act) <sup>4</sup>	<p>Compilation of loan data.</p> <ul style="list-style-type: none"> <li>• (a) Data format and itemization. A financial institution shall collect data regarding applications for, and originations and purchases of, home purchase loans, home improvement loans, and refinancings for each calendar year. An institution is required to collect data regarding requests under a pre-approval program (as defined in Sec. 203.2(b)) only if the pre-approval request is denied or results in the origination of a home purchase loan. All reportable transactions shall be recorded, within thirty calendar days after the end of the calendar quarter in which final action is taken (such as origination or purchase of a loan, or denial or withdrawal of an application), on a register in the format prescribed in Appendix A of this part.</li> </ul>

There are several other regulations that impact smaller financial services firms, such as the National Credit Union Administration rules (Figure 3). Many smaller firms are familiarizing themselves with these rules as the definition of 'records' is expanding to e-mails with customers, online forms and other digital content. (Appendix A has additional regulations that pertain to financial services firms.)

<sup>2</sup> [http://www.access.gpo.gov/nara/cfr/waisidx\\_06/17cfr275\\_06.html](http://www.access.gpo.gov/nara/cfr/waisidx_06/17cfr275_06.html)  
<sup>3</sup> [http://www.access.gpo.gov/nara/cfr/waisidx\\_06/17cfr270\\_06.html](http://www.access.gpo.gov/nara/cfr/waisidx_06/17cfr270_06.html)  
<sup>4</sup> [http://www.access.gpo.gov/nara/cfr/waisidx\\_06/12cfr203\\_06.html](http://www.access.gpo.gov/nara/cfr/waisidx_06/12cfr203_06.html)

**FIGURE 3. SELECT SECTION TITLES FROM RULES ISSUED BY THE NATIONAL CREDIT UNION ADMINISTRATION**

Regulation <sup>5</sup>	Applicable Section Titles / Descriptions
12CFR Sec. 749.1-5	<ol style="list-style-type: none"> <li>1. What are vital records?</li> <li>2. What must a credit union do with vital records?</li> <li>3. What is a vital records center?</li> <li>4. What format may the credit union use for preserving record? Preserved records may be in any format that can be used to reconstruct the credit union's records. Formats include paper originals, machine copies, micro-film or fiche, magnetic tape, or any electronic format that accurately reflects the information in the record, remains accessible to all persons who are entitled to access by statute, regulation or rule of law, and is capable of being reproduced by transmission, printing or otherwise.</li> <li>5. What format may credit unions use for maintaining writings, records or information required by other NCUA regulations?</li> <li>6. NCUA does not recommend a particular format for record retention. If the credit union stores records on microfilm, microfiche, or in an electronic format, the stored records must be accurate, reproducible and accessible to an NCUA examiner. If records are stored on the credit union premises, they should be immediately accessible upon the examiner's request; if records are stored by a third party or off-site, then they should be made available to the examiner within a reasonable time after the examiner's request. The credit union must maintain the necessary equipment or software to permit an examiner to review and reproduce stored records upon request. The credit union should also ensure that the reproduction is acceptable for submission as evidence in a legal proceeding.</li> </ol>

<sup>5</sup> [http://www.access.gpo.gov/nara/cfr/waisidx\\_06/12cfr749\\_06.html](http://www.access.gpo.gov/nara/cfr/waisidx_06/12cfr749_06.html)

In the United Kingdom, the Financial Services Authority governs all banking and insurance activity. Within the FSA Handbook, there are several record retention schedules that apply to various financial services firms. Figure 4 provides an example of these rules. In summary, record retention rules involve everything from account applications to advertising programs with retention periods between one and six years on average.

**FIGURE 4. SECTION TITLES FROM THE FINANCIAL SERVICES AUTHORITY (FSA) IN THE UK**

Regulation <sup>6</sup>	Applicable Section Titles / Descriptions
<p>MCOB 2.8 Record keeping from the Mortgages and Home Finance: Conduct of Business sourcebook</p>	<ul style="list-style-type: none"> <li>• MCOB 2.8 provides details of the standard expected of firms where there is an obligation in MCOB requiring firms to maintain adequate records to evidence compliance. An overall view of the record keeping requirements in MCOB is in MCOB Sch 1.</li> <li>• The records required in MCOB must be readily accessible for inspection by the FSA.</li> <li>• A record would be 'readily accessible' if it were available for inspection within two business days of the request being received.</li> <li>• (1) A firm may arrange for records to be kept in such form as it chooses, provided the record is readily accessible for inspection by the FSA. (2) Where a firm chooses to maintain records in electronic form, it should take reasonable steps to ensure that: <ul style="list-style-type: none"> <li>(a) the electronic record accurately reflects the original information; and</li> <li>(b) the electronic record has not been subject to unauthorized or accidental alteration.</li> </ul> </li> <li>• Each rule in MCOB that requires a record also sets out a period that the record must be kept for. While not a requirement of MCOB, firms may choose to keep records for longer periods, for example, where there is the possibility of customer complaint or legal action against the firm</li> </ul>
<p>Example of record on MCOB Sch 1<sup>7</sup> MCOB 4.7.17R(1)(a)</p>	<p>Details of the customer information obtained, including the customer's needs and circumstances, for the purpose of assessing the suitability of a regulated mortgage contract (3 year retention)</p>
<p>Example of record on MCOB Sch 1<sup>8</sup> MCOB 11.3.1R(2)</p>	<p>Evidence to demonstrate that the firm has taken into account the customer's ability to repay (a mortgage). (Retention period: One year from the date on which the regulated mortgage contract is entered into, or the further advance provided)</p>

<sup>6</sup> [http://www.access.gpo.gov/nara/cfr/waisidx\\_06/12cfr749\\_06.html](http://www.access.gpo.gov/nara/cfr/waisidx_06/12cfr749_06.html)

<sup>7</sup> <http://fsahandbook.info/FSA/html/handbook/MCOB/Sch/1?searchtext=MCOB%20Sch%201&searchtype=boolean>

<sup>8</sup> <http://fsahandbook.info/FSA/html/handbook/MCOB/Sch/1?searchtext=MCOB%20Sch%201&searchtype=boolean>

In Japan, organizations must comply with the Financial Instruments and Exchange Law (often referred to as J-SOX because of its similarity to Sarbanes-Oxley in the U.S.). The aforementioned international record retention regulations are not the only rules that today's international businesses face as any country with a central bank, brokerage firms and a capital market system must have laws governing the operation of these entities. If these banks conduct business in the United States, they must abide by the rules set forth by the SEC. This is why SEC rules are known to be followed by any broker/dealer. For American-based banks, they must follow the rules put in place by the FSA and other regulatory bodies.

## **The Move to Electronic Records Management, Retention and Storage**

It may seem a bit trivial to reduce thousands of pages of regulations down to a few common characteristics, but in keeping with the theme, an organization can improve compliance with technology by narrowing its focus to one part of the IT infrastructure. When researching the regulations that impact financial services from a storage perspective, it is clear that business records must be kept for specified periods of time. With more and more records being created digitally by e-commerce, supply chain and other applications, organizations must determine how to store them for compliance purposes. Paper-based records management was feasible when stock trades were done by filling out paper tickets or when a customer had to go into a bank and fill out a deposit slip. Times have changed and it no longer makes sense for financial services firms to use paper-based processes for records created by IT systems. Electronic records management programs are aided by archiving hardware and software—making it easy to capture certain records, set a retention period and automate enforcement.

Today, many financial services firms use backup tapes to address record retention rules. Tape media keeps business records in electronic format and, for SEC specific regulations, write-one read-many (WORM) tape formats can be used to prevent any modification or deletion. The drawback to tape is that data written to it is not stored in its native format, which means the data has to be restored before it can be accessed. Disk may be a better option when a firm is constantly searching for and producing records as tape needs to first be restored before it can be searched and disk systems inherently offer faster retrieval times.

The likelihood of having to produce business records for audit purposes varies. Smaller community banks may never receive an audit; broker/dealers and investment banks may have to prove they are keeping business records multiple times per year. Retaining information on disk systems makes records more accessible—facilitating faster response times during audits.

While disk is a great alternative for newer business records that may be requested as part of an audit, saving data on disk for several years can be expensive. Organizations can choose to migrate older business records to tape or even optical because of their lower acquisition and operating costs. Therefore, an archiving strategy that combines disk and tape may be the best alternative for a firm facing several regulations with long retention periods and must also produce records regularly for audit purposes.

# **Electronic Discovery Expands Compliance**

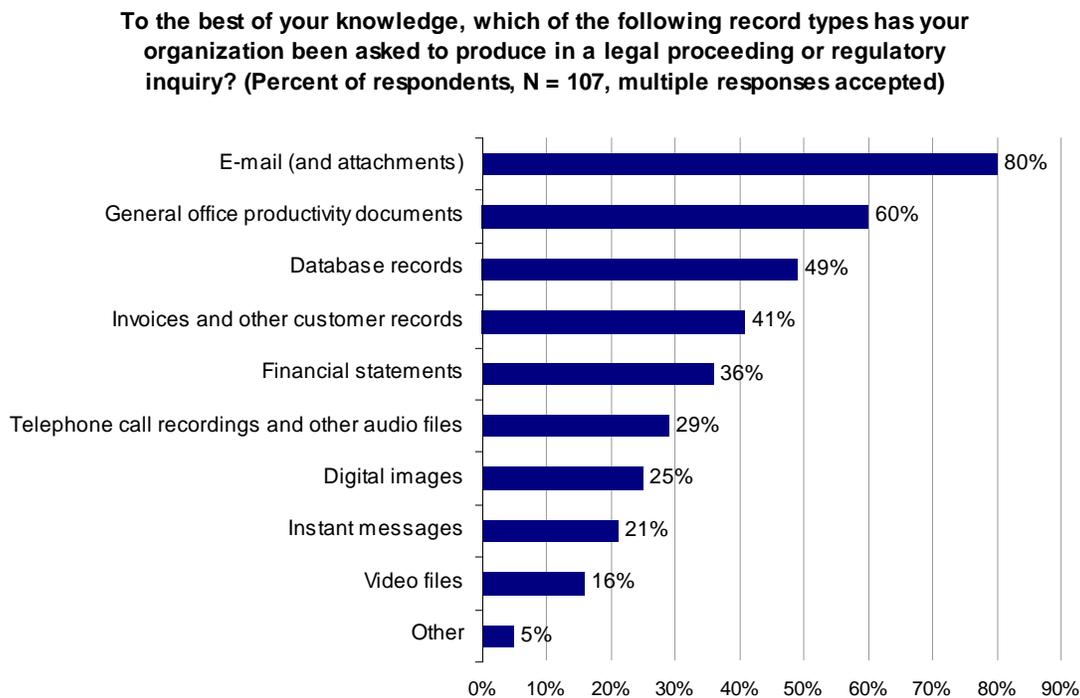
## **It's not a Matter of When, it's How Many**

The harsh reality is that the litigious nature of financial services will never dissipate, though the causes may change (today, poor lending controls are the culprit; earlier in the decade, it was lax broker/dealer control). Financial organizations, therefore, need to find ways to locate and preserve any—and all—information that could become the subject of an electronic discovery request. This includes e-mail, loan applications, customer statements, wire transactions, etc. While much of this information is generated and stored in electronic format, it may only represent a small fraction of a financial organization's overall data.

Due to the ever increasing use of computer systems to transact normal business activity, litigators and regulators are targeting messaging applications, database records and other sources of electronic evidence during discovery proceedings (Figure 4). Some of these discovery requests come during regulatory audits or after a

civil case has been filed. Regardless of the reason, corporate counsels in financial services organizations are quickly becoming familiar with the intricacies of IT as a part of the legal process.

**FIGURE 5. MOST FREQUENTLY REQUESTED RECORD TYPES DURING AN ELECTRONIC DISCOVERY**



Source: ESG Research Report: *Electronic Discovery Requirements Escalate, 2007*

## Getting Ready for the Long Haul

Whether it's a large broker/dealer or a small community bank, any financial services organization must prepare to deal with electronic discovery requests. Locating data is only one of the challenges that organizations must address during the electronic discovery process. Once potential evidence sources—including backup tapes and files on a PC—are found, the data has to be preserved as long as the matter or audit is active. Preservation of evidence helps ensure its integrity, but many organizations find it difficult to keep a large amount of data from being manipulated, modified or deleted for several years. Legal matters, especially those that involve a large amount of plaintiffs or have a significant financial impact, may take a while to resolve—especially if there are appeals that further exacerbate electronic evidence preservation demands.

Factor retention laws that require organizations to keep this information for years (up to 30 in the case of mortgages) in with regular data growth and imagine how hard it might be to find a subset of electronic evidence, let alone preserve it (i.e., ensure its integrity) for a significant length of time. The bottom line is all you have to do is look at the Federal Rules of Civil Procedure amendments that were enacted in December 2006—all of which focused on the management of electronic evidence—to get a glimpse of what lies ahead.

# Archiving For Compliance

## Making the Right Investment

Compliance with record retention regulations and electronic discovery processes requires organizations to archive information differently. Keeping everything on backup tape is no longer the answer because one never

knows when the data will be requested as part of a discovery request. But storing all data on disk may not be feasible for cost reasons. When selecting potential archiving products, organizations should look for archive solutions that not only adapt to current and future data retention, data authenticity and disaster recovery needs—but are also flexible in terms of application and storage support (i.e., solutions that can support more than one type of application data (e.g., e-mail, database and file) and can incorporate multiple tiers of storage.

## **IBM Addresses Key Compliance Challenges for Financial Services Organizations**

### **Storing Large Volumes of Data for Long Periods of Time Cost-Effectively**

ESG research estimates that database information is growing at 25% per year with e-mails and unstructured file data increasing at two to three times that amount. One large international bank's information doubled from 1 to 2 PB last year. Not all this information is business records, but these growth rates take into account any data that is subject to record retention regulations and electronic discovery preservation. Factor in retention periods that now average between 6-10 years and firms must find new ways to keep all data available without crippling their IT budgets.

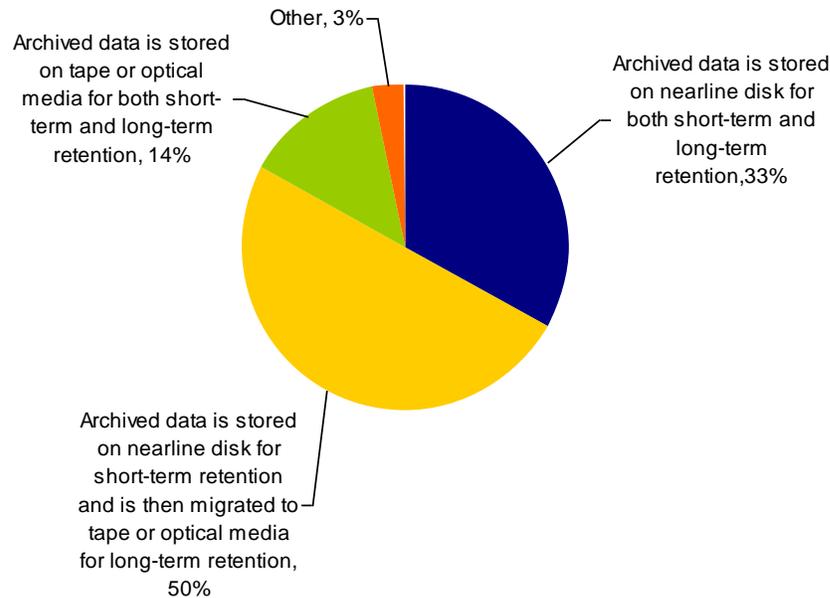
Recognizing that financial services firms come in all sizes, IBM offers two DR550 models—depending on the scale of the user environment. The DR550 Model DR1 is a single-server, single-rack (25U high) system that provides up to 30 TB of usable disk capacity. It is designed for small to midsize businesses and may be ideal for community banks, credit unions or departments of larger firms. The DR550 Model DR2 is enterprise-focused and perfect for big Wall Street shops, scaling from 8 to 136.5 TB of usable disk capacity and giving users the option to implement two servers for high availability. The enterprise version also offers synchronous or asynchronous replication options for disaster recovery.

One of the key differentiators of the DR550 is the fact that it is designed to support different tiers of media (disk, tape and optical) within the same archive. Both models feature support for optional TS1120 WORM/encryption, LTO 3 / 4 WORM and LTO4 encryption. This can help keep archive costs down (only data that needs to be on disk is kept on disk) and enable organizations to scale archive capacity into petabyte ranges. Data migration is automated and either policy- or event-driven. Typically, older or less frequently accessed data can be migrated to tape. Movement is handled by the System Storage Archive Manager (SSAM) in DR550.

For financial services firms, the scalability and flexibility of having both a disk- and tape-based archive allows corporate counsel to advise IT as to what data may be requested during a discovery—ensuring that it is made readily accessible when needed. For business records like mortgage applications, using tape can be more cost effective over the long term. Overall, a combination of disk and tape is the most common storage infrastructure amongst financial services for archive data (Figure 5).

**FIGURE 6. ARCHIVING STORAGE INFRASTRUCTURE WITHIN FINANCIAL SERVICES ORGANIZATIONS**

**Current storage infrastructure for archiving, by financial vertical (Percent of respondents, N=36)**



Source: ESG Research Report, :Electronic Discovery Requirements Escalate, 2007

### **Centralizing Business Records for Consistent Retention Management**

Business records may incorporate e-mail, database data, files generated from e-commerce applications, Instant Messages and other content types. The same holds true for evidence as there is no telling what data sources litigators or regulators will target. Trying to deploy an archive storage system for each of those applications can create significant IT overhead and requires attorneys to set preservation requirements across a variety of devices. IBM’s DR550 can simplify this process by creating a central multi-tier archive for all data types. Again, data migration is automated and handled by the DR550’s SSAM.

The SSAM API integrates with more than 40 archiving and content management applications. The retention period is set by the archive application and enforced by the DR550. The system also has a gateway feature, which allows users to bring NFS and CIFS files into the archive and use SSAM to enforce retention policies for the data. Data is automatically migrated according to policies or specific events among the archive media.

### **Record Preservation and Security**

There is a big difference between getting records into an archive and preserving them once they’re stored. Being able to do both—automatically—is critical to financial organizations today. Given the huge volume of records that financial services companies are storing, it is imperative that there be an automated method of preserving critical business records.

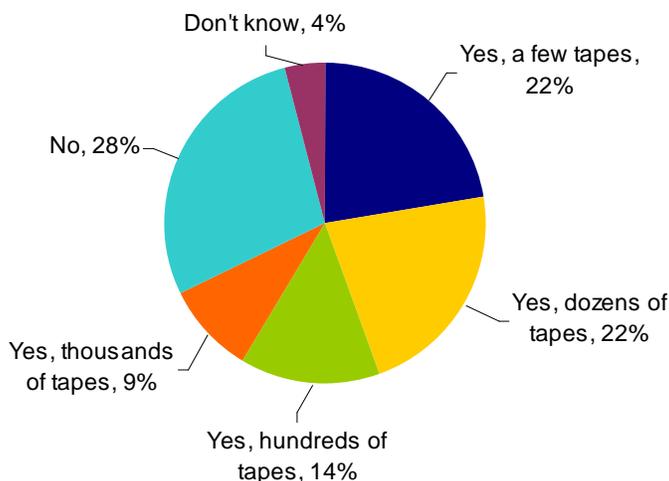
The DR550 has an “auto-WORM” capability that can be applied to all tiers of the archive (disk, tape and optical). Once data is written to the DR550, it cannot be modified or deleted prior to expiration. This means business records are preserved over their lifetime and, importantly, as data is migrated among the DR550’s multiple tiers. Organizations can set retention policies within the DR550 itself or they can do this directly from database, e-mail or other supported archiving applications. Alternatively, the DR550 can be connected to support WORM-enabled tape libraries or drives to meet SEC 17a4 requirements.

Because tape is a central repository for IT data, many firms utilize tape to consolidate information on legal hold (Figure 6). The DR550 provides financial services customers with the option to preserve electronic evidence on

disk, tape or a combination of the two. It is essential for corporate counsels and IT departments to collaborate—balancing the cost of storing the information with its accessibility requirements and then selecting the appropriate DR550 option.

**FIGURE 7. MANY ORGANIZATIONS HAVE TAPES ON LEGAL HOLD**

**To the best of your knowledge, is your organization currently retaining any backup tapes indefinitely because of a legal or regulatory hold order? (Percent of respondents, N = 107)**



Source: ESG Research Report: Electronic Discovery Requirements Escalate, 2007

The DR550 also has support for built-in encryption, which enables organizations to optionally encrypt data—securing business records that are being transported to an offsite location on tape. Remote tape storage satisfies one of the requirements in SEC Rule 17a-4 (as does disk-based replication), but customers may also transport tapes for disaster recovery purposes. To prevent any unauthorized access, tapes containing financial records that contain sensitive information like account numbers or credit card data can be encrypted.

### **Protecting Corporate Archives**

The DR550's integrated media management capabilities have implications beyond archiving. Backups can be initiated directly from the DR550 to tape using SSAM. This is important for a couple of reasons: 1) it makes it easy for users to protect their archives and 2) it is cost-effective because no additional (backup) software is needed. As for business continuity, the DR2 (enterprise-class) model includes optional synchronous or asynchronous mirroring of archive data for added protection of users' most vital archive data. Again, the mirroring is done through onboard software.

Most financial services institutions have to publish a business continuity plan to prove compliance. By replicating data offsite either synchronously or asynchronously, the DR550 helps organizations ensure that critical records are not lost in the event of a disaster, thereby fulfilling a critical piece of the business continuity plan.

## Conclusion

Record retention regulations have been around since the early part of twentieth century, but just like the SEC rules, they now encompass e-mail and other digital files. The new U.S. FRCP around electronic evidence management is as an area that financial services organizations also need to address. Unfortunately, financial services firms of any size must find ways to comply with all of these rules in a cost-effective and operations-efficient manner.

Trying to find 'the' compliance solution is an unrealistic endeavor. A better approach is to invest in solutions whose functionality can help address compliance challenges and fit within the existing IT infrastructure. A good place to start is the storage environment, as many rules involve creating and keeping data for specified periods of time. With more data being born digital, record retention processes must evolve from keeping paper in boxes to those that rely on more searchable, accessible storage media like disk and tape.

Whether it's remote replication, setting and enforcing retention periods, building a cost-effective archive or ensuring the immutability of data over its lifetime, the DR550 offers a rich feature set that has been proven to help financial services firms address today's compliance challenges. The DR550 may not be a panacea for all that ails the financial services organization from a compliance standpoint, but it can help organizations meet record retention and evidence preservation mandates due to its scalability and configuration flexibility—both of which allow firms to store more information for longer periods of time in a cost effective manner.

# Appendix A – Examples of Financial Services Record Retention Regulations

The following tables represent a portion of regulations that a financial services organization may have to comply with, depending on the businesses they currently engage.

## Securities Exchange Act of 1934 - Rule 17a

Regulation <sup>9</sup>	Applicable Section Titles / Descriptions
17CFR Sec. 240.17a-1	Recordkeeping rule for national securities exchanges, national securities associations, registered clearing agencies and the Municipal Securities Rulemaking Board.
17CFR Sec. 240.17a-2	Recordkeeping requirements relating to stabilizing activities.
17CFR Sec. 240.17a-3	Records to be made by certain exchange members, brokers and dealers.
17CFR Sec. 240.17a-4	<p>Records to be preserved by certain exchange members, brokers and dealers.</p> <p>Paragraph (f):</p> <p>The records required to be maintained and preserved pursuant to Sec. Sec. 240.17a-3 and 240.17a-4 may be immediately produced or reproduced on "micrographic media" (as defined in this section) or by means of "electronic storage media" (as defined in this section) that meet the conditions set forth in this paragraph and be maintained and preserved for the required time in that form.</p> <p>(1) For purposes of this section:</p> <ul style="list-style-type: none"> <li>(i) The term micrographic media means microfilm or microfiche, or any similar medium; and</li> <li>(ii) The term electronic storage media means any digital storage medium or system and, in the case of both paragraphs (f)(1)(i) and (f)(1)(ii) of this section, that meets the applicable conditions set forth in this paragraph (f).</li> </ul> <p>(2) If electronic storage media is used by a member, broker, or dealer, it shall comply with the following requirements:</p> <ul style="list-style-type: none"> <li>(i) The member, broker, or dealer must notify its examining authority designated pursuant to section 17(d) of the Act (15 U.S.C. 78q(d)) prior to employing electronic storage media. If employing any electronic storage media other than optical disk technology (including CD-ROM), the member, broker, or dealer must notify its designated examining authority at least 90 days prior to employing such storage media. In either case, the member, broker, or dealer must provide its own representation or one from the storage medium vendor or other third party with appropriate expertise that the selected storage media meets the conditions set forth in this paragraph (f)(2).</li> <li>(ii) The electronic storage media must: <ul style="list-style-type: none"> <li>(A) Preserve the records exclusively in a non-rewriteable, non-erasable format;</li> <li>(B) Verify automatically the quality and accuracy of the storage media recording process;</li> <li>(C) Serialize the original and, if applicable, duplicate units of storage media, and time-date for the required period of retention the information placed on such electronic storage media; and</li> <li>(D) Have the capacity to readily download indexes and records preserved on the electronic storage media to any medium acceptable under this paragraph (f) as required by the Commission or the self-regulatory organizations of which the member, broker, or dealer is a member. <b>(Continued on next page)</b></li> </ul> </li> </ul>

<sup>9</sup> The National Archives and Records Administration Code of Federal Regulations — <http://www.access.gpo.gov/nara/cfr/cfr-table-search.html#page1>

- (3) If a member, broker, or dealer uses micrographic media or electronic storage media, it shall:
- (i) At all times have available, for examination by the staffs of the Commission and self-regulatory organizations of which it is a member, facilities for immediate, easily readable projection or production of micrographic media or electronic storage media images and for producing easily readable images.
  - (ii) Be ready at all times to provide, and immediately provide, any facsimile enlargement which the staffs of the Commission, any self-regulatory organization of which it is a member, or any State securities regulator having jurisdiction over the member, broker or dealer may request.
  - (iii) Store separately from the original, a duplicate copy of the record stored on any medium acceptable under Sec. 240.17a-4 for the time required.
  - (iv) Organize and index accurately all information maintained on both original and any duplicate storage media.
    - (A) At all times, a member, broker, or dealer must be able to have such indexes available for examination by the staffs of the Commission and the self-regulatory organizations of which the broker or dealer is a member.
    - (B) Each index must be duplicated and the duplicate copies must be stored separately from the original copy of each index.
    - (C) Original and duplicate indexes must be preserved for the time required for the indexed records.
  - (v) The member, broker, or dealer must have in place an audit system providing for accountability regarding inputting of records required to be maintained and preserved pursuant to Sec. 240.17a-3 and 240.17a-4 to electronic storage media and inputting of any changes made to every original and duplicate record maintained and preserved thereby.
    - (A) At all times, a member, broker, or dealer must be able to have the results of such audit system available for examination by the staffs of the Commission and the self-regulatory organizations of which the broker or dealer is a member.
    - (B) The audit results must be preserved for the time required for the audited records.
  - (vi) The member, broker, or dealer must maintain, keep current, and provide promptly upon request by the staffs of the Commission or the self-regulatory organizations of which the member, broker, or broker-dealer is a member all information necessary to access records and indexes stored on the electronic storage media; or place in escrow and keep current a copy of the physical and logical file format of the electronic storage media, the field format of all different information types written on the electronic storage media and the source code, together with the appropriate documentation and information necessary to access records and indexes.
  - (vii) For every member, broker, or dealer exclusively using electronic storage media for some or all of its record preservation under this section, at least one third party (“the undersigned”), who has access to and the ability to download information from the member’s, broker’s, or dealer’s electronic storage media to any acceptable medium under this section, shall file with the designated examining authority for the member, broker, or dealer the following undertakings with respect to such records.

## The NYSE and NASD Record Retention Rules that Align with SEC Rule 17a-3&4

NYSE Regulations <sup>10</sup>	Applicable Section Titles
Rule 410	Records of Orders.
Rule 123	Record of Orders.
Rule 440	Books and Records.

NASD Regulations <sup>11</sup>	Application Section Titles
Rule 3110	Books and Records

## Bank Secrecy / Anti-Money Laundering Act

Regulation <sup>12</sup>	Application Section Titles
31 CFR Sec. 103.32 through 38	<p>32. Records to be made and retained by persons having financial interests in foreign financial accounts.</p> <p>33. Records to be made and retained by financial institutions.</p> <p>34. Additional records to be made and retained by banks.</p> <p>35. Additional records to be made and retained by brokers or dealers in securities.</p> <p>36. Additional records to be made and retained by currency dealers or exchangers.</p> <p>37. Nature of records and retention period.</p>

## Record Creation and Retention Regulations for Government Securities Brokers and Dealer

Regulation <sup>13</sup>	Applicable Section Titles
17CFR Sec. 404.2 through 4	<p>2. Records to be made and kept current by registered government securities brokers and dealers; records of non-resident registered government securities brokers and dealers.</p> <p>3. Records to be preserved by registered government securities brokers and dealers.</p> <p>4. Records to be made and preserved by government securities brokers and dealers that are financial institutions.</p>

<sup>10</sup> <http://rules.nyse.com/NYSE/>

<sup>11</sup> <http://www.finra.org/RulesRegulation/FINRARules/index.htm>

<sup>12</sup> [http://www.access.gpo.gov/nara/cfr/waisidx\\_07/31cfr103\\_07.html](http://www.access.gpo.gov/nara/cfr/waisidx_07/31cfr103_07.html)

<sup>13</sup> [http://www.access.gpo.gov/nara/cfr/waisidx\\_06/17cfr404\\_06.html](http://www.access.gpo.gov/nara/cfr/waisidx_06/17cfr404_06.html)

## Recordkeeping Rules for National Banks

Regulation <sup>14</sup>	Applicable Section Titles / Descriptions
12 CFR Sec. Sec. 12.3	<p>Recordkeeping.</p> <p>General rule. A national bank effecting securities transactions for customers shall maintain the following records for at least three years:</p> <p>(1) Chronological records. An itemized daily record of each purchase and sale of securities maintained in chronological order, and including:</p> <ul style="list-style-type: none"> <li>(i) Account or customer name for which each transaction was effected;</li> <li>(ii) Description of the securities;</li> <li>(iii) Unit and aggregate purchase or sale price;</li> <li>(iv) Trade date; and</li> <li>(v) Name or other designation of the broker/dealer or other person from whom the securities were purchased or to whom the securities were sold;</li> </ul> <p>(2) Account records. Account records for each customer, reflecting:</p> <ul style="list-style-type: none"> <li>(i) Purchases and sales of securities;</li> <li>(ii) Receipts and deliveries of securities;</li> <li>(iii) Receipts and disbursements of cash; and</li> <li>(iv) Other debits and credits pertaining to transactions in securities;</li> </ul> <p>(3) Memorandum order. A separate memorandum (order ticket) of each order to purchase or sell securities (whether executed or canceled), including:</p> <ul style="list-style-type: none"> <li>(i) Account or customer name for which the transaction was effected;</li> <li>(ii) Type of order (market order, limit order, or subject to special instructions);</li> <li>(iii) Time the trader or other bank employee responsible for effecting the transaction received the order;</li> <li>(iv) Time the trader placed the order with the broker/dealer, or if there was no broker/dealer, time the order was executed or canceled;</li> <li>(v) Price at which the order was executed; and</li> <li>(vi) Name of the broker/dealer utilized;</li> </ul> <p>(4) Record of broker/dealers. A record of all broker/dealers selected by the bank to effect securities transactions and the amount of commissions paid or allocated to each broker during the calendar year; and</p> <p>(5) Notifications. A copy of the written notification required by Sec. Sec. 12.4 and 12.5. (b) Manner of maintenance. The records required by this section must clearly and accurately reflect the information required and provide an adequate basis for the audit of the information. Record maintenance may include the use of automated or electronic records provided the records are easily retrievable, readily available for inspection, and capable of being reproduced in a hard copy.</p>

<sup>14</sup> [http://www.access.gpo.gov/nara/cfr/waisidx\\_06/17cfr404\\_06.html](http://www.access.gpo.gov/nara/cfr/waisidx_06/17cfr404_06.html)

## Select Definitions and Recordkeeping Rules from the Financial Services Authority (UK)

Term	Definition
MiFID	The European Parliament and Council Directive on markets in financial instruments.
MiFID Regulation	Commission Regulation implementing Directive 2004/39/EC of the European Parliament and of the Council as regards organisational requirements and operating conditions for investment firms and defined terms for the purposes of that Directive.
MiFID Investment Firm	A firm to which MiFID applies including, for some purposes only, a credit institution and UCITS investment firm. A firm which is: <ol style="list-style-type: none"> <li>1. an investment firm with its head office in the EEA (or, if it has a registered office, that office);</li> <li>2. a BCD credit institution (only when providing an investment service or activity in relation to the rules implementing the Articles referred to in Article 1(2) of MiFID);</li> <li>3. a UCITS investment firm (only when providing the services referred to in Article 5(3) of the UCITS Directive in relation to the rules implementing the articles of MiFID referred to in Article 5(4) of that Directive); unless, and to the extent that, MiFID does not apply to it as a result of Article 2 (Exemptions) or Article 3 (Optional exemptions) of MiFID.</li> </ol>

Regulation <sup>15</sup>	Applicable Section Titles / Descriptions
Senior Management Arrangements, Systems and Controls SYSC 9.1.x	<p>General Record Keeping Requirements</p> <ol style="list-style-type: none"> <li>1. A firm must arrange for orderly records to be kept of its business and internal organisation, including all services and transactions undertaken by it, which must be sufficient to enable the FSA or any other relevant competent authority under MiFID to monitor the firm's compliance with the requirements under the regulatory system, and in particular to ascertain that the firm has complied with all obligations with respect to clients.</li> <li>2. A firm must retain all records kept by it under this chapter in relation to its MiFID business for a period of at least five years.</li> <li>3. In relation to its MiFID business, a common platform firm must retain records in a medium that allows the storage of information in a way accessible for future reference by the FSA or any other relevant competent authority under MiFID, and so that the following conditions are met: <ol style="list-style-type: none"> <li>(1) the FSA or any other relevant competent authority under MiFID must be able to access them readily and to reconstitute each key stage of the processing of each transaction;</li> <li>(2) it must be possible for any corrections or other amendments, and the contents of the records prior to such corrections and amendments, to be easily ascertained;</li> <li>(3) it must not be possible for the records otherwise to be manipulated or altered.</li> </ol> </li> <li>4. Guidance on record-keeping. Subject to any other record-keeping rule in the Handbook, the records required under the Handbook should be capable of being reproduced in the English language on paper. Where a firm is required to retain a record of a communication that was not made in the English language, it may retain it in that language. However, it should be able to provide a translation on request. If a firm's records relate to business carried on from an establishment in a country or territory outside the United Kingdom, an official language of that country or territory may be used instead of the English language.</li> <li>5. In relation to the retention of records for non-MiFID business, a firm should have appropriate systems and controls in place with respect to the adequacy of, access to, and the security of its records so that the firm may fulfil its regulatory and statutory obligations. With respect to retention periods, the general principle is that records should be retained for as long as is relevant for the purposes for which they are made.</li> <li>6. Schedule 1 to each module of the Handbook sets out a list summarising the record-keeping requirements of that module.</li> <li>7. The Committee of European Securities Regulators (CESR) has issued</li> </ol>

<sup>15</sup> <http://fsahandbook.info/FSA/html/handbook/SYSC/9/1>

	recommendations on the list of minimum records under Article 51(3) of the MiFID implementing Directive. This can be found at: <a href="http://www.fsa.gov.uk/pubs/other/CESR_Minimum_List_Recommendations.pdf">http://www.fsa.gov.uk/pubs/other/CESR_Minimum_List_Recommendations.pdf</a>
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## Select Recordkeeping and Record Retention Schedules of FSA

Regulation	Example of Record and (Retention Period)
Senior Management Arrangements, Systems and Controls - SYSC Sch 1 <sup>16</sup>	Accounting and other records that are sufficient to enable the firm to demonstrate to the FSA: (1) that the firm is financially sound and has appropriate systems and controls; (2) the firm's financial position and exposure to risk (to a reasonable degree of accuracy); (3) the firm's compliance with the rules in GENPRU, INSPRU and SYSC. (3 years, or longer as appropriate)
Client Assets - CASS Sch 1.3 <sup>17</sup>	Client custody assets held or received by or on behalf of a client or which the firm has arranged for another to hold or receive (3 years)
Collective Investment Schemes - COLL Sch 1 <sup>18</sup>	Minutes of meetings (6 years)
New Conduct of Business Sourcebook - COBS Sch 1 <sup>19</sup>	Information about the firm, services and information (5 years)
Prudential sourcebook for Banks, Building Societies and Investment Firms - BIPRU Sch 1 <sup>20</sup>	A record of the legal review showing enforceability of credit protection arrangements in all relevant jurisdictions (Review conducted as necessary)
Prudential sourcebook for Insurers - INSPRU Sch 1 <sup>21</sup>	A separate accounting record in respect of each of a firm's long-term insurance funds (Not specified)
Electronic Money - ELM Sch 1 <sup>22</sup>	Record of steps taken to prove persons not closely related (Three years after the firm ceases to take advantage of ELM 3.5.10 R)
Training and Competence - TC Sch 1 <sup>23</sup>	A firm must make appropriate records to demonstrate compliance with the rules in this sourcebook and keep them for the following periods after an employee stops carrying on the activity: (1) at least 5 years for MiFID business; (2) 3 years for non-MiFID business; and (3) indefinitely for a pension transfer specialist.

<sup>16</sup> <http://fsahandbook.info/FSA/html/handbook/SYSC/Sch/1?searchtext=record%20keeping&searchtype=boolean>  
<sup>17</sup> <http://fsahandbook.info/FSA/html/handbook/CASS/Sch/1?searchtext=record%20keeping&searchtype=boolean>  
<sup>18</sup> <http://fsahandbook.info/FSA/html/handbook/COLL/Sch/1?searchtext=record%20keeping&searchtype=boolean>  
<sup>19</sup> <http://fsahandbook.info/FSA/html/handbook/COBS/Sch/1?searchtext=record%20keeping&searchtype=boolean>  
<sup>20</sup> <http://fsahandbook.info/FSA/html/handbook/BIPRU/Sch/1?searchtext=record%20keeping&searchtype=boolean>  
<sup>21</sup> <http://fsahandbook.info/FSA/html/handbook/INSPRU/Sch/1?searchtext=record%20keeping&searchtype=boolean>  
<sup>22</sup> <http://fsahandbook.info/FSA/html/handbook/ELM/Sch/1?searchtext=record%20keeping&searchtype=boolean>  
<sup>23</sup> <http://fsahandbook.info/FSA/html/handbook/TC/Sch/1?searchtext=record%20keeping&searchtype=boolean>

## Appendix B – Compliance in the Insurance Industry

In the United States, there are several forms of insurance: health, automobile, life, disability and others. Many insurance providers also conduct business in other financial services sectors such as asset management. As such, insurance brokers and underwriters are subject to many of the same regulations as banks. For example, insurance companies have to comply with individual state regulations. Further, there may be industry specific rules, such as HIPAA (healthcare), that an insurer must abide by. Needless to say, insurance firms spend significant resources addressing compliance challenges.

Although it may seem that insurance companies differ from broker/dealers and other financial services firms, when it comes to the intersection of compliance and storage, the rules are very similar. Insurance companies must retain certain records for specified periods of time. These records are often claims against a policy or a change in coverage for a policy holder. The complexities in the record creation and retention policy for insurance providers lie within the industry's supply chain. In every insurance sub-sector, there are brokers, agents, underwriters, processors/clearinghouses and other parties that are part of the 'paperwork' process.

Regardless of the role an insurance provider plays in a particular process, storing information regarding claims, payouts and premiums is a must. There is no question that this information needs to be readily accessible as it will need to be accessed by different parties throughout the process. In many cases, this data may have to be produced during an audit or electronic discovery as insurance companies are often involved in litigious matters. As such, evidence preservation requirements for legal holds have to be followed.

Any insurance firm can benefit from IBM's System Storage DR550. The system can scale to hundreds of terabytes inclusive of disk, tape or optical media. Scalability is crucial for insurance firms as claims processing workflows now contain images of car accidents, videos of flood damage to a residence and other rich media content. Depending on the state regulations, policies and claims may have to be kept for several years. For those agencies working in the healthcare industry, retention periods last as long as the patient is alive and these records have to abide by HIPAA security rules, making the DR550's support of encrypted tape a good fit.

Because the insurance records may need to be accessed by other parties within a workflow, the SSAM-enabled data movement and replication capabilities of the DR550 can be leveraged by large agencies to get the information to the right location efficiently.

Many insurance firms utilize content management applications to manage workflows that include records management processes. Through SSAM API, DR550 communicates with several content management platforms which alleviates any operational burden on IT departments. Insurance companies can utilize the DR550 as a records management archive without having to disrupt existing processes—a critical benefit for those firms moving from paper to digital records retention procedures.

Insurance firms are like many other firms that have to comply with record creation and retention laws as well discovery mandates. With rich media and electronic forms being a part of the claims process, storage plays a critical part in compliance. Archiving information as part of a pre-defined workflow is a common occurrence and now this process is going digital. IBM's DR550 can scale as capacity requirements increase and its ability to move and copy data makes accessibility and protection easy.



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