

BEST PRACTISES IN CORPORATE DATA MANAGEMENT

WHITE PAPER



EXECUTIVE SUMMARY

Organizations that have implemented the first generation of Storage Resource Management [SRM] tools are beginning to find the need to develop or redefine practices to leverage new technologies and keep pace with the increasing tides of digital data. The first step toward evolving an organization's storage framework—which combines both a business and IT approach—is recognizing the fundamental difference between storing data and managing it. The former merely approaches it from a "housing" or capacity perspective. The latter seeks to extract value from your data: making it readily available to facilitate efficient business processes and communications—key advantages in today's fast-paced digital economy. Companies realize further bottom-line benefits by reducing admin overhead. Viewed from this perspective, storage management is no longer strictly an IT concern; it is intrinsic to the way your company performs and competes.

Reactive data management—as opposed to intelligent information management—leaves a number of important issues unanswered. Traceability, quality control, even compliance with new information age legislation such as Sarbanes-Oxley, requires that organizations put in place a sophisticated system that goes well beyond passive data storage. Such a system needs to embed the intelligence necessary for CIOs, system administrators, and users to prioritize and easily manage data, making what's most important easily accessible.

This growing realization is bringing together senior management and the IT team in assigning value to information and determining how to manage it by establishing rules regarding what and how much is stored. Assuring that information is up-to-date and that critical information is available on-demand has implications for just about all aspects of business, from efficient and responsive customer relations, to arming your sales force with real-time information they need to be effective.

This paper details best practices in data management for all key organizational stakeholders, from the CEO to the end-user, and shows what to look for in a tool that enhances an organization's ability to manage, access, and use information, all of which directly correlates to improved business efficiencies and competitive advantages.

1. BEST PRACTICES FOR THE CIO

Data is one thing impervious to the prevailing economic climate. While the price of storage-related hardware has fallen, actual management of an organization's storage infrastructure has become complex, time-consuming, and, as a result, costly. A recent study by Data Management Institute shows that administration stands for a staggering 80 percent of the total storage cost, with just 20 percent for hardware. With stored data increasing 60 percent annually [according to an IDC report], efficient storage management is a critical bottom line imperative. IT Managers share the same overriding goal: to efficiently manage data, maximize existing hardware, and promote optimum system performance—all while remaining within strict budgetary confines. The challenge then becomes...

A. TURNING STORAGE MANAGEMENT INTO PROFIT CENTER

The fundamental challenge is to turn the management of storage into a profit center SRM contributes to organizational productivity. Ultimately, this means putting in place a system—or tool—that simplifies management for your IT admins, reclaims capacity from your hardware investments, optimizes current network performance, and gives users on-demand access to the data they need. All of the above can be accomplished with the correct SRM solution in place.

Key questions to ask in implementing a best practices approach to user data management:

- Does your “solution” let you optimize storage resources by efficiently and effectively reducing non-essential data [while reducing IT overhead]?
- Does it enable you to free up valuable IT resources to attend to other pressing tasks?
- Does it offer reporting tools that allow your IT team to easily identify users who are abusing the system, show where bottlenecks are, and how data use and storage is trending?
- Will it be bottom-line friendly and postpone the need for added storage, thus maximizing your investments in existing servers and NAS devices?
- Does it give you the ability to plan for growth?

B. INTEGRATING WITH OTHER DATA MANAGEMENT TECHNOLOGIES

As CIOs by definition take a more global view of an environment's component parts—and how they all inter-relate, particular consideration should be given to combining an SRM tool with other data and storage management technologies and tools already in place. With the advent of SAN and NAS, enterprises have greater flexibility and control over their storage environments. However, most storage managers are faced with administering a myriad existing components—new, complex storage topologies that lack a clear and consolidated approach to management. Now, it is critical to provide integrated management of all aspects of storage across a heterogeneous environment made up of multiple devices,

such as SAN switches, complex storage systems, and storage appliances and technologies such as HSM, data de-duplication and virtualization.

Key questions to ask in implementing a best practices approach toward an integrated, centralized storage management system:

- How can I make sure that my staff is maximizing the tools and technologies we have in place? Are they effectively “harmonizing” and integrating such diverse technologies as data de-duplication, HSM, and storage virtualization in a way that makes the sum greater than their parts?
- How can I maximize these technologies and, at the same time, centralize management to realize the greatest gains?

By consolidating IT, CIOs give system administrators and their IT staff greater flexibility in deploying the latest storage technologies across all application environments as needs dictate...and making sure that the whole is greater than the sum of its parts—a central concern for any CIO.

2. BEST PRACTICES FOR SYSTEM ADMINISTRATORS

Did you know that only 35 percent of data is ever re-opened? Spending precious time on managing extraneous or “unnecessary” data can be a major drag on productivity and compromise your ability to execute tasks and meet your CIO's stated objectives in today's ever-shortening business cycles.

Everything considered, the most effective means of managing capacity is to manage data. Capacity management ought to shift the focus from hardware to software services, which are used to monitor data [how old, how often accessed, redundancies, etc.] and move it accordingly. While some tools offer basic reporting on when and how often data are modified and accessed, others take this a step further to automate actions—data moves, deletions, and clean-up—based on preset triggers [dates, etc.].

For system administrators, a best practices approach for data management addresses several fundamental issues:

A. AUTOMATING TASKS: Quota management is a fundamental SRM component—indeed it has long been its very foundation. A quota management application implements a corporate policy around the amount of disk space allowed per user. Broadly defined, quota management eliminates waste, maximizes capacity, and blocks file types to remove the risk of legal exposure and ensure that storage usage is always under control. Many products offer only soft quota management, which is informational in nature. Hard quotas are those that actually stop the user from storing once the defined level of storage space is used.

Organizations have different data infrastructures and different policies in how valuable network resources are to be used. Generally speaking, quota management should allow users—or business units—to acquire and store data

according to their need and role. This enables organizations to intelligently allocate storage resources, which translates into significant cost savings and operational efficiencies.

A best practices approach in automating quota management should include the following:

- **Storage Policy Enforcement:** once policies are established, users should be able to quickly and simply implement quotas, alerts, thresholds, notifications, and actions across your entire network.
- **Centralized Management:** admins should be able to collect, view, and manage data across the enterprise from a single console. From one screen, you should have real-time access to such information as the number of quotas applied, the number of locked quotas, the amount of space used by objects with quotas, and more. This should also provide “at a glance” insights into storage utilization and trends.
- **Full Active Directory [AD] Integration:** this provides a secure, open, and enterprise-wide directory service for storage and storage policies. In AD, your quota management package should be able to store information about quotas, current usage, etc. The data stored in AD makes it possible for an external agent to read or modify all settings that your quota management software uses.
- **Delegated Permissions,** allowing user groups controlled access to manage certain aspects of the quota policy.
- **Global [multi-server] Management/Mass changes to policies.**
- **Centralized Database for Expanded Control of Enterprise Resources:** while this is not a feature of most quota management software, we believe it is important to be able to facilitate “bi-directional” replication of quota information and policies to and from a central database [MS SQL Server]. This allows admins to set and manage the quotas and policies in the central database, which are then propagated out to the servers, eliminating the need to manually connect to each server and alter the settings one-by-one. The central database also pulls in quota-related data [e.g., on usage], which can then be used in another application that could then be fed into another application.

In principle, best practices in SRM automation optimization enables you to:

- Manage resources intelligently, efficiently, and economically
- Automatically free space
- Automate performance optimization
- Trigger jobs by events, thresholds, and settings that you define.
- Run processes after-hours, eliminating interruptions in business processes

B. TIMELY, ACCURATE REPORTS ON STORAGE HEALTH: a best practices approach is based on having reporting tools that let you know exactly who is abusing the system. Reports must show where bottlenecks are and how data use and storage

is trending; this information will enable you help meet your CIO's budget targets by deferring additional investments in new hardware, and better plan for growth.

C. USER SELF-SERVICE: Organizations need to manage both infrastructure and data.

Automating quotas alone can't respond to issues that crop up on a case-by-case basis. The most efficient system is one that gives users a limited degree of discretion over their allotted storage space and one that facilitates monitoring and communication among IT, department heads, and end users. In other words, the best system is both self-policing "on the ground" and administered from above. The idea is to make users responsible and accountable for the data they store. This can be done by providing users with tools and information about their own data. A complete SRM solution will offer these tools.

[For a more detailed best practices approach to user self-management, see "Best Practices for End Users"]

3. BEST PRACTICES FOR END USERS

Creative professionals spend an average of one out of every 10 hours of their time on file management. Their prime activity: Searching. Do you feel that you have time for this? Demand that a management tool be put in place that will ensure easy access, no downtime, and easy communication with IT department. You are willing to do you share, but you need a good tool to aid you.

Giving users the tools to proactively and responsibly manage their data and their allotted storage quota, affords them both ownership and accountability of the data they create. Limited storage self-management enables users to prioritize and easily manage their data, making what's most important most accessible. It gives users a stake in economical and responsible data storage, and remains the single best approach in making storage management, well, manageable.

Armed with information about the files a user owns, and where they are stored, will make it easier for the user to keep track and remove anything that is not needed. After all, only the file's owner can know the true value of their files. The user will be able to make sure that she stays within the quota limits, and if more storage space is needed, she'll be able to request it, assuring that all "high value" files are readily available.

4. BEST PRACTICES FOR CORPORATE LEGAL COUNSEL

Reactive data management—as opposed to intelligent information management—leaves a number of important issues unanswered. Traceability, quality control, even compliance with new "information age" legislation, i.e., Sarbanes-Oxley, requires that organizations put in place a sophisticated system that goes well beyond passive data storage. Such a system needs to embed the intelligence

necessary for administrators and users to prioritize and easily manage data, making what's most important most accessible.

Best practices in data storage management for corporate compliance officers must address the following:

- The legal staff, working in concert with the IT team, must determine an overarching data storage, protection, and retention strategy.
- Centralize and streamline processes, reducing the time needed to process information requests.
- Implement a tiered storage structure such that you know which data needs to be maintained for how long and for what reason, in order to comply with [specific] regulations. [The more data an organization keeps, the more data lawyers potentially have to sift through during the review and analysis stage.]

The corporate legal counsel also needs to be able to identify who owns what document, where this document originated, and that it is properly safeguarded so that it can't be deleted, only replicated or moved.

5. BEST PRACTICES FOR THE CEO

Did you know that companies spend \$8200 per person, per year on file management activities? This includes resources allocated for storage, backup, disaster recovery, organization, and verification, as well as the time end users spend searching for files. A best practices approach to corporate data management goes directly to the organization's bottom line and its ability to compete—which is to say it speaks to a CEO's core concerns.

The accelerated pace of doing business in today's world puts organizations under tremendous pressure. They need to be fleet and flexible, able to rapidly respond to opportunities, make decisions, and deploy resources. The efficient management of user data is fundamental to an organization's ability to function. It has implications for every aspect of your business: from productivity [the ready availability of business critical data], to compliance [how files are retained], to the cost of doing business [data growth can exact a significant price].

A CEO's key concern regarding user data management is the organization's ROI on the solutions it has in place:

- Does it assure that all business units have reliable, anytime/anywhere access to the data they need to be productive?
- Is my IT team keeping data growth and associated costs in check?
- Do its automated features reduce demands on the IT staff?
- Is the head of the IT unit effectively and efficiently managing his staff—to what extent are repetitious tasks automated and valuable man-hours devoted to more strategic tasks, delivering more value to the organization?

In adhering to a best practices approach in user data management, CEOs must:

- Demand optimized and cost-effective data management: ask your CIO for regular reports to ascertain investment schedules in order to make sure expenditures are being carefully monitored and contained [and that best practices as outlined above are being adhered to].
- Demand that business critical data be available on demand.
- Expect data to be available for legal discovery and compliance. Expect confidential and sensitive information to be available and secure.

CEOs should have these areas addressed and audited quarterly.

CONCLUSION

Some of today's most dynamic organizations are embracing an entrepreneurial approach to all phases of their business, from the way decisions are made to the way information is managed. Entrepreneurial information management is essentially the difference between storing data and managing it. The former merely approaches it from a "housing" perspective. The latter seeks to extract value from your data: making it readily available to facilitate efficient business processes and communications—key advantages in today's fast-paced digital economy. Companies realize further bottom-line benefits by reducing admin overhead, preserving hardware investments, optimizing systems and processes, deferring purchases, and simplifying compliance. Viewed from this perspective, a best practices approach to storage management is no longer strictly an IT concern; it speaks to the core concerns of each stakeholder in your organization:

- **CIO:S** can slash expenses associated with storage management and allocate precious resources to other strategic tasks.
- **CEO:S** are pleased to see a lowered total cost of ownership associated with storage while facilitating company-wide access to the data that business units needs to be effective.
- **SYSTEM ADMINS** can automate tasks, minimize extraneous data, assure system uptime, and have complete transparency into the storage infrastructure—all of which supports the CIO's core objectives.
- **COMPLIANCE OFFICERS** have assured access to the data they need to satisfy today's stringent compliance requirements.
- **END USERS** who spend an average of 1 out of every 10 hours of their time on file management—chiefly searching for files—now have quicker access to the data they need as unnecessary data is sharply reduced and system uptime is sustained. Additionally, user self-service gives them greater ownership of their data and allotted storage, promoting more responsible usage.

Adhering to the best practices addressed in this paper will go a long way in improving your organization's ability to manage, access, and use information—which is to say improving your ability to conduct business, compete, and meet your core goals.

ABOUT NORTHERN

Northern is an international software company specializing in the development of reliable, flexible and easy to use solutions for storage management. Northern Storage Suite breaks Storage Resource Management down into four goals; to identify and reclaim wasted storage capacity, control user behavior, plan for future storage needs and make the end-users a part of the storage solution. World-wide over 28,000 organizations and more than half of the companies on Fortune Global 100 use Northern software to bring control and order to their storage environments.