

How to Plan Storage Needs When Moving from File Cabinets to Hard Disk—Why Invoices Are a Key Indicator

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If you're implementing document imaging technology, it's a fairly safe bet your storage requirements are going to increase. This article describes an easy way to determine the added demand, and provide some viable options to meet it. The discussion is framed within these five areas:

1. Capacity Planning
2. Backup Strategy
3. Repository Options
4. SharePoint
5. Disaster Recovery

Capacity Planning: First, you'll be planning for something that's been handled in the physical world for many years. Fortunately, it's the same as determining how many filing cabinets you need for all those invoices - except this time, storage is digital. Here's a good guideline:

Consider that a four-drawer vertical filing cabinet typically holds 10K pages of paper (capacity is 12K but you have to leave room for that lunch container). That much paper stored digitally, requires approximately 1 GB of disk storage.

Calculate how often you fill a four-drawer cabinet. For example, if you receive 100 invoices a week (assuming an average of two pages filed per invoice), you're filling one new filing cabinet per year. You know that you're going to add 1 GB to your storage requirements.

Backup Strategy: Chances are you already have a formal backup strategy and storage medium. DAT and DLT tape have been the backbone of backup systems for years. But with the continually decreasing cost of high-capacity disk drives, tape has transitioned to the role of creating the periodic "off-site backup" (it's a hassle to drag that SAN home every Friday).

EMC founder Richard Egan got the ball rolling 20 years ago. "Why do we need tape drives?" Egan asked rhetorically. "We don't. Someday, everything will be stored on disk." Of course, if you started a disk storage system company, you would say the same thing too. Tape or disk, keep in mind that long-term backups and disaster recovery demand that the storage medium be physically moved or located at another site.

Using our capacity planning guidelines and a more realistic volume of 100 invoices a *day*; document imaging will add 5 GB to your off-site backup requirements within a year.

Repository Options: Your users need to retrieve digital documents on demand, so they must be stored in a scalable and reliable image repository. This is an incredibly complex topic but I will try to hit the high, hard ones here:

Disk Storage Systems: This is acronym heaven (or hell if you prefer). LUN, IOPS, SAN, NAS, JBOD, RAID - yikes! For small and medium businesses that don't have the luxury of a large IT staff, often the best answer is simply a dedicated network attached storage device (NAS). The downside is these devices do not have the performance or disaster recovery characteristics of more sophisticated offerings. For larger firms, the latest trend is storage virtualization, similar to using virtual machines (VMs) for application servers. Fortunately, companies like 3PAR and DataCore are making solutions that offer SMBs the same benefits for less. Do a search for "thin provisioning" to learn more.

External Repositories: Also known as hosted solutions, external repositories are attractive because they offer built-in disaster recovery since the storage is not on your premises. Customers pay a monthly fee based on GBs stored or page volume, and startup is typically fast and easy. There is a slow but steadily growing trend for companies to store digital documents *in the cloud*.

Network Appliance: A few vendors offer an all-in-one solution, where the imaging system also provides a storage repository. Here at ImageTag, our experience has shown that simplicity is the most appealing design consideration. So the idea of a solution that our customers could just "plug in" to their networks was appealing. Last year we introduced a network appliance that provides customers a way to capture documents as well as a place to store them. Even the entry-level model can store the equivalent of 200 four-drawer filing cabinets. How much floor space could that save you?

SharePoint: If disseminating or making scanned content accessible across the enterprise, look for an imaging solution that enables you to take advantage of the native components and rich functionality of Microsoft Office SharePoint Server (MOSS). While valuable to your organization, this could create additional storage needs since your Microsoft Dynamics application will access documents differently than your SharePoint users.

Disaster Recovery: By implementing an imaging system, you have already taken a big step toward disaster recovery. Remember, paper documents are vulnerable to loss and can become inaccessible by damage or destruction (i.e. fire or flood) to the physical office space. *When was the last time anyone backed up a file cabinet?*

Once your paper invoices become digital, your disaster recovery plans should include the image repository to ensure that your accounting department has access to the related documents once your ERP System is back up and running. Our customers have told us that the top three systems that come up after a disaster are email, their ERP system and their imaging system.

The number of invoices your A/P department currently receives is a key indicator of how much storage you're going to need. Be sure to consider other important business process such as sales orders, human resources and contracts when assessing your requirements. Of course, other business drivers like consolidation (or divesture) of companies may require imaging existing paper documents that are physically stored in file cabinets. All of these areas can contribute to increasing storage demand and requirements.