

## INTERNET VAULTING

OVERVIEW >>

From enterprise-sized corporations, to simple home-based businesses, all companies have information that is important to their success and that needs to be protected. Data storage and protection is a necessary part of doing business today. That is why Williams Records Management offers you the leading technology available in data protection: Internet Vaulting.

Internet Vaulting is a “next-generation” data backup and recovery service that is now available to all segments of the business community. Our vaulting service eliminates the need for any equipment purchases or license fees. You simply pay for the space used to store your data.

Internet Vaulting has proven to be the most reliable and simple way to protect your data. You determine the schedule and the software will automatically perform the backup. The company data is stored safely offsite and is easily retrievable in the event of a loss or total disaster.

Williams Records Management is committed to delivering superior backup and restore services with the highest levels of security and encryption. We offer some of the highest encryption options in the industry. In addition, our secure data vaults are housed in premier collocation facilities which maintain 99.999% power and internet bandwidth availability. By eliminating your risk, Williams Records Management guarantees you the best Internet Vaulting service available.

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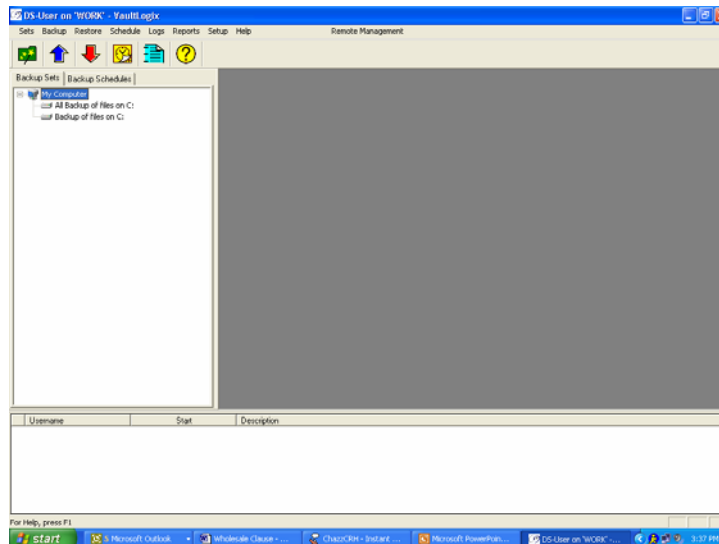
### Introduction

Any document, spreadsheet, or other type of file is at risk if it exists in only one location. Hard drive malfunction and computer viruses, as well as things like fire and human error can and do happen to computer systems. When these problems occur, some or all of your data can be lost forever – weeks or months of work can disappear in an instant. The best protection from such a disaster is to have multiple versions of the data, and one stored in an alternate location. This is the basic principle behind all backup strategies.

Many businesses have a backup procedure already in place. However, they may not be aware of the alternatives to their current expensive, manual, archaic tape-based backup processes. With business operations so reliant on information technology, it is vitally important to identify alternatives that can eliminate vulnerabilities. In addition, it is important to utilize an effective data protection service that will allow you to quickly restore business operations.

The following are some key points to consider when evaluating your company's data protection procedures:

- Preventing data loss
- Scalability to assist in growth planning
- Security
- Fast access to your data
- Cost savings
- Data restoration process
- Comprehensive solution for all applications and data locations
- Simple graphical user interface:



### Service Overview

Williams Records Management's Internet Vaulting is a powerful and easy-to-use solution designed to provide data protection to all businesses.

#### a. How Our Service Works

- **Software is installed:**

We install our agentless software solution onto one computer (server or desktop) on your LAN. Regardless of how many servers you have, it will only need to be loaded once, and the file will occupy approximately 75MB (laptop version is 15MB) of space. In a typical situation of one server, an installation will take an average of 20 minutes.

- **Initial backup (Seed)**

The primary method for initial backup is through a secure, encrypted connection utilizing an Internet access connection between the software we install on your LAN (DS-Client) and one of our secure Data Vaults. However, in situations where the initial backup volume is such that a network transfer is impractical it is possible to collect and transport it to our Data Vault through a Portable Data Vault.

The initial backup is the process of sending all client selected data to the data vault in its encrypted and compressed format. After completion of the initial backup, the DS-Client will then only process the actual changes to your data using our delta blocking technology. Delta blocking technology reviews the existing data in 4k blocks, searching for changes in the data since the last backup. Once found, only the changes are processed for offsite storage. These changes are held as different point in time versions called Generations. As many as 999 Generations can be retained on the Data Vaults.

- **Automated schedule and number of generations established:**

During the installation process, you will decide the frequency and time limits of your automated backup. It establishes when your software will be active. You will also register the number of generations you want stored in your vault. For an average client, we recommend 5 generations. These are the 5 most recent versions of your data changes. Once a version of changes becomes the sixth version, it is automatically pushed into your main body of data.

- **Data is encrypted and compressed prior to offsite transfer:**

Once the software activates itself, it will scan your data for any and all changes that have been made since the last transfer. It will break the data down into 4 KB bits, gather and encrypt only the changes, and transfer that bundle to your vault to be established as a generation.

- **Data is transferred offsite and a report is generated:**

The encrypted data is transferred over your existing Internet connection to our secure Data Vault. In order for the transfer to take place, your Internet connection must be active at the time of the scheduled backup. A report indicating the transfer activity and data amount will be sent to you by e-mail.

- **Data is held on hard drive disk arrays for rapid online recovery:**

If there is a loss of data, be it a single lost file or a complete loss of all data, the process to restore the information is simple and fast. The end user is instructed by the software to access the data and how to quickly place it back into the system. Our customer service department will assist you if necessary.

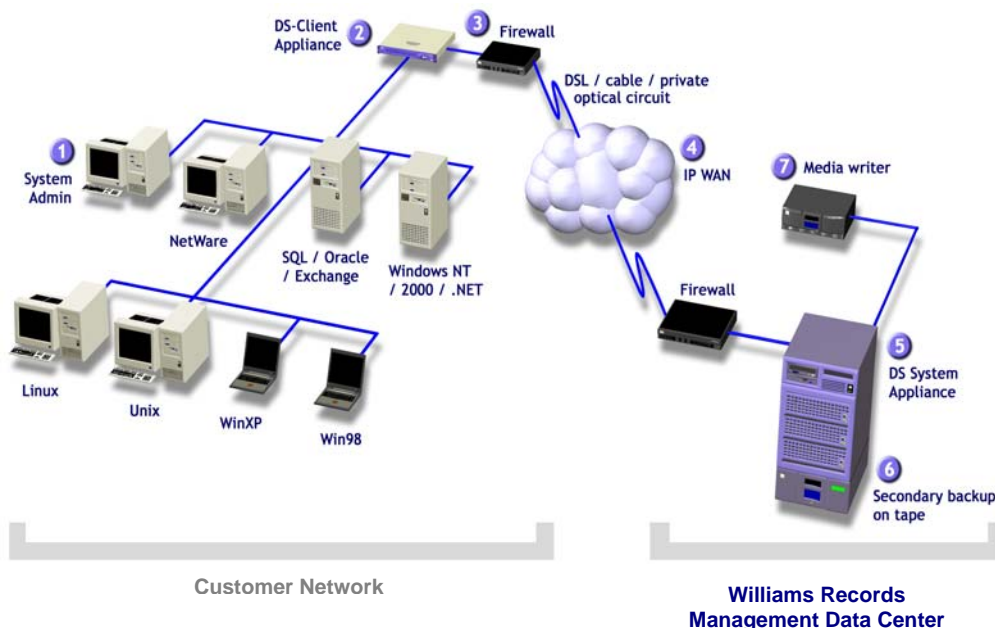
- **Data is backed up again, providing a second offsite copy:**

Our goal is to provide our clients with a very simple and reliable backup and recovery solution. We exist on the value of that reliability. We guarantee that your data will be there for you if you ever need it. And to ensure that our guarantee is more than just words, we duplicate your copy for an additional backup.

### b. Overview

Designed for high performance backup and recovery, Internet Vaulting protects your critical business data automatically at a secure offsite data center. Whether you are managing a small office or many servers, Internet Vaulting provides the same ease-of-use and efficiency.

- *Agentless* - The Internet Vaulting backup software is totally Agentless, requiring no additional software to be installed on more than one machine to enable backups.
- *Common File Elimination* - Ensures that the same data is never transmitted offsite more than twice.
- *Delta Blocking* - Only the changed blocks of a file are transmitted to complete a FULL backup every day.
- *Compression* - Decreases the size of the data being transmitted.
- *Encryption* - Data is securely transmitted to the Williams Records Management Data Vault at encryption levels exceeding standard government and banking requirements.
- *Open File Management* - Enables the backup of almost any file.
- *Bandwidth Control* - Manage the incoming and outgoing bandwidth utilization for individual back-up sets.
- *Remote Administration* - Control the backup and restore procedures for remote locations.



### Service Features

- **Message Level Restore**

Email has quickly become the single most widely used feature of the Internet, and many companies consider it a critical communication tool. Lost or corrupted emails can cause significant damage, including irretrievable business loss. For customers utilizing Microsoft Exchange, the *Message Level Restore* tool facilitates and enables pre-determined levels of email backups and restores, ranging from an entire Exchange info store, to individual emails from a single user's email box.

- **Local Storage Restore**

Ideal for customers with available LAN space and who need rapid, seamless business continuity, the *Local Storage Restore Tool* enables a customer to save a copy of the latest snapshot of a backup set on a local storage location, thereby ensuring that relevant backup sets are always available for immediate restoration at LAN speed.

- **Online File Summary**

In order to efficiently operate a data storage service, it is critical for the Customer to maintain an intimate understanding of the data contained on our Data Vaults. Using a sophisticated system of customer-generated reporting, the On-line File Summary Tool cost-effectively and accurately cross-references and analyzes data already resident on our Data Vaults, which improves the management of backup sets.

- **Laptop / Standalone PC (*DS-Client Lite*)**

Because enterprise laptop users or single-PC home office customers have no complex network backup requirements, for these users, much of the rich functionality contained within the DS-Client package is unnecessary. To accommodate portable or single PC users, whose requirements are limited to fast, simple, single PC backups / restores, Williams Records Management offers the *DS-Client Lite*.

- **Long Term Storage**

Every business stores data of varying importance. Mission-critical data required for day-to-day operations must be immediately accessible and stored on our Data Vaults. However, the lifecycle of less important data can be managed more effectively by archiving some data to an alternate storage media type (CD, DVD or Tape).

### Technical Overview

#### a. Client Software

The proprietary client software used by Williams Records Management and designed to perform unattended and demand backups and selective restoration of a user's specified files is called the DS-Client. The DS-Client software runs as a service on a Windows (NT, XP Pro, SBS, 2000 or 2003) or Linux (Red Hat 9.0) server, or standalone PC, at your location.

The DS-Client serves as a gateway to our secure Data Vaults: User data is tagged for backup within a Backup Set and flows through the DS-Client, where it is compressed, encrypted and sent to our Data Vaults for storage.

#### b. System Requirements

Williams Records Management requires minimal overhead to run its Internet Vaulting service.

- PIII 500 or higher
- >256MB RAM
- >1GB available disk space
- Connected to LAN via Ethernet
- Domain/Workgroup connectivity to all machines
- Access to Internet
- Windows 2000 SP3 / 2003 / Windows XP Pro SP1 (or higher)

#### c. Platforms Supported

## PLATFORMS SUPPORTED

Product	O/S Vendor	O/S Type
DS Client	Windows	XP Pro / NT / 2000 / 2003
Management GUI	Linux	Red Hat 9.0
Windows Filesystem	Microsoft	All Versions
Novell Filesystem	Novell	All Versions
UNIX Filesystem	All Versions	All Versions
Linux Filesystem	All Versions	All Versions
PostgreSQL	Red Hat Linux	9.0
Exchange 5.5 / 2000 / 2003	Windows	NT / 2000 / 2003
MS SQL 6.5 / 7 / 2000	Windows	NT / 2000 / 2003
Oracle 8/9	Windows	2000/ 2003
Oracle 9 Release 2	Red Hat Linux	9.0

**d. Network Overview**

<b>Fiber Route:</b>	Diverse Fiber Optic facility entrances
<b>Power:</b>	5000 Amp 480v AC Main Paralleling switchgear Up to 10,000 Amp DC power plant Back up power provided by up to four – 1,000 kW diesel generators with a 48-hour fuel supply
<b>Fire Suppression:</b>	Ready conversion from wet system to a dry pipe system Pre-action system linked to smoke and heat detectors
<b>Grounding:</b>	A PVC conduit is provided from the main facility Ground
<b>HVAC:</b>	Conditioned space with temperatures maintained between 65 and 75 degrees F and relative humidity between 40 and 60%
<b>General:</b>	All space conditioning is monitored through a building automatic controls system
<b>Internet Bandwidth:</b>	100 Mbps capacity – (4 separate bandwidth providers)
<b>Storage:</b>	Customer data is stored 'hot' online at all times on redundant RAID 5 disk arrays and backed up to tape and taken offsite for disaster recovery purposes.

**e. Security**

Williams Records Management reviews all aspects of its processes to ensure the integrity and security of its client's data. We review security within three separate segments of the service.

**1. Customer Location**

▪ **Username and passwords**

Our software is configured upon install with a username and password. This username and password must be entered each time to gain access to our software. Our software can also be configured to take advantage of a pre-defined user group located on the Local Machine / Active Directory / NT 4.0. This feature allows multiple user accounts to access our software with multiple levels of permissions. This is a very useful feature in a medium to larger corporation where various people are responsible for backing up their departments data on a regular basis.

▪ **Unique machine ID**

Upon installation of our software on a client's network, a unique machine ID security cookie is automatically created and registered with our data vaults and tagged to the client's account. This cookie contains a snapshot of the machine we installed our software on from a hardware (MAC address, processors, memory etc) and software (OS) standpoint. This cookie is generated on-the-fly each and every time a client tries to connect to one of our data vaults. If the cookies do not match 100%, the connection is denied. This process prohibits a rogue employee from downloading or otherwise acquiring our software and using its company's account registration information to gain unauthorized access to our data vaults.

### 2. Data Transmission

- **Proprietary software format**

All client data is transmitted in the proprietary Williams Records Management software format, as well as being compressed and encrypted. Without a properly authorized DS Client installation, the data is unreadable.

- **Encryption**

To insure the security of our client's data, our software automatically encrypts every file it sends over the internet with an encryption key provided by the client during the installation process. Williams Records Management utilizes government approved AES encryption algorithms to generate its public and private key pairs and supports an industry leading key size up to 256 bits.

All client's files are stored and remain encrypted on our secure data vaults at all times. The decryption process occurs automatically during the restore operation by our software. This ensures that all backup data transferred and stored outside the client's location is always protected.

*Note: For compliance and regulatory reasons Williams Records Management can not reset encryption keys nor does Williams Records Management retain encryption keys without expressed written consent.*

- **Block level changes**

After the initial seed backup Williams Records Management creates a customer specified number of generations based upon block level changes. Block level changes is a review process that is completed during each backup set that recognizes and captures 4k block level changes to files since the last backup. Only the changed blocks are processed offsite for retention. In the event of a restore, the DS Client instantly recompiles the block level changes with the seed backup and restores a point-in-time copy of the customer's data.

Block level changes enhance security by only sending bits and pieces of data to complete a daily full backup. Complete files are not sent, only fragments of files which would be unusable without the seed data.

### 3. Williams Records Management Data Center

- **Physical security**

All client data resides in its encrypted format behind the firewall. In addition, our Data Vaults reside in a secure state-of-the-art co-location facility with redundant internet bandwidth, power, and backup generators. Physical access to our system is guarded by three separate pass key entrances and each Data Vault is within a locked cabinet.

- **Facility redundancy**

Complete redundancy for bandwidth and power are a mandatory requirement for all facilities in which Williams Records Management Data Vaults are located. For example: The Marlboro, Massachusetts Data Vault maintains 4 separate bandwidth providers for constant internet availability and capacity. In addition, dual conduits in to the building for both power and bandwidth are utilized. Power

is support by UPS, battery backup and diesel generators and utilizes and automatic transfer switch to transfer power in the event of an emergency.

- **IP security**

Upon request, Williams Records Management can lock down a client's account to a certain public IP range or even to a single IP address. This adds an additional level of security for our clients and prevents someone from stealing the machine with our software and trying to gain access to our data vaults from outside the company network.

**f. Reporting**

All reports are held locally on the DS-Client machine for fast and free access to important account information. Some sample reports include:

- **Backup Sets:** This report shows all of the DS-Clients backup sets. It shows details about the source path, owner, connection, number of files, on-line amount, last scheduled backup and status.
- **Backup Trends:** This report shows usage statistics (files backed up, size in KB and Backup time in Minutes) grouped by week or month. It can be made for an individual user, all users or particular node/share.
- **Backup Users:** This report displays all of the users who currently have specified backup sets. This is useful when tracking the storage usage of users, and may assist to determine whether an individual requires a higher storage limit.
- **Backup/Restore:** This summary provides a detailed breakdown of each user's daily backup and restore activities. Then it breaks down usage by connection time, number of files, and data volume. A summary total is provided for the selected time period at the bottom of the user's section. Grand totals are provided for the entire period at the bottom of the report.

**g. Data Processing**

The duration and size of client data that resides on a Data Vault will vary depending upon data type, data volume and internet connectivity. Williams Records Management utilizes the following charts as a guide for data processing:

**COMPRESSION RATIO EXAMPLES**

FILE TYPE	DESCRIPTION	RATIO	PERCENTAGE
hlp	Microsoft Help Files	2:1	49%
doc, xls	Microsoft Office Files	6:1	86%
exe	Windows Executable	2:1	54%
dbf	Database Files	2:1	56%
txt	Text Files	1.7:1	45%

*\* Compression ratio totals do not include Common File Elimination. Data reduction may be greater.*

**BACKUP DURATION CALCULATIONS**

BANDWIDTH (downstream)	MB PER HOUR	GB PER DAY
128 kb/s	50 MB	1.3 GB

## Internet Vaulting Technical Brief

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512 kb/s	200 MB	5 GB
1.544 Mb/s	650 MB	16 GB

### Summary

Williams Records Management offers a comprehensive and reliable data backup service. We provide state-of-the-art offsite data protection at an affordable price. The focus of our Internet Vaulting service is to guarantee an automated, reliable and secure backup solution that enables 24x7x365 access to your data for simple and immediate restoration.

Internet Vaulting has proven itself to be far more reliable and efficient than the first generation of online backup technology (ie. tape backup environments). Internet Vaulting has been thoroughly tested and certified by leading technology infrastructure providers and used by many enterprise-level companies. By eliminating the need for upfront costs, we are now able to offer it as a cost effective solution to the small and medium sized businesses as well.

Williams Records Management offers fast and reliable data recovery. In the case of data loss or disaster, it is imperative that you have a speedy and guaranteed method to recover your data. Whether you are restoring a single file, or your entire system, Williams Records Management Internet Vaulting is the best solution available.