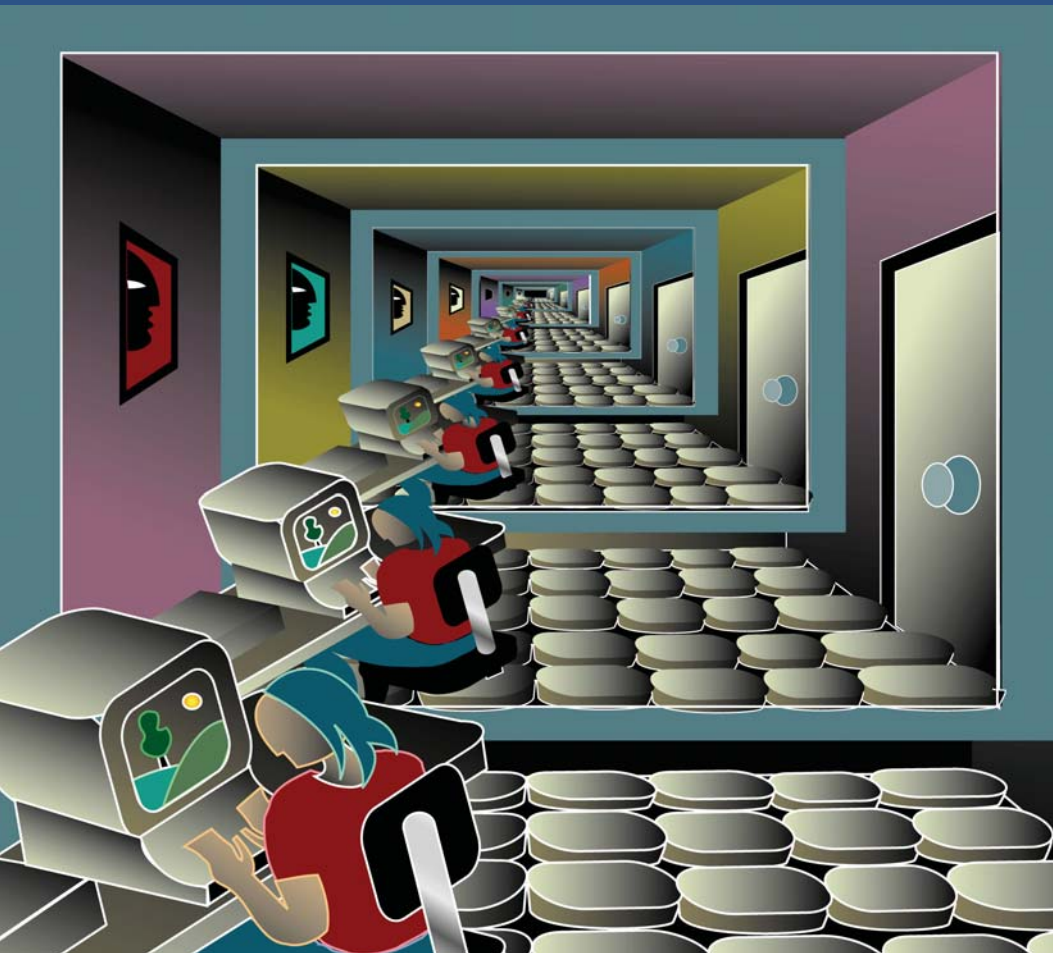


UPSTREAM Reservoir

*Enterprise-Wide Backup and Recovery System...
Data Protection for your Enterprise.*



Flexible

Scalable

Simple

Comprehensive

UPSTREAM Reservoir

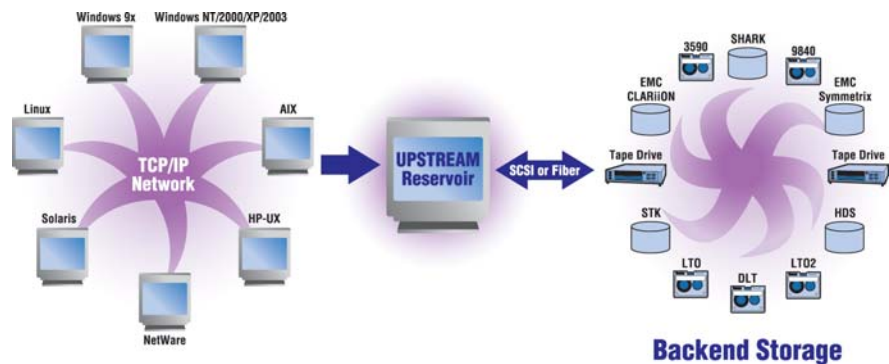


Simple & Comprehensive Backup and Recovery

UPSTREAM Reservoir provides comprehensive storage management protection for servers and databases anywhere in the enterprise. UPSTREAM Reservoir enables the effective protection of your business-critical data by simplifying, centralizing and automating your backup and recovery operations. UPSTREAM Reservoir is designed to:

- Lower the cost of protecting your Open Systems data
- Provide superior levels of protection for your data
- Improve data restore capabilities
- Lets you provide comprehensive data protection with less staff

UPSTREAM Reservoir is the open systems backup server that reduces the complexity of the backup management process resulting in more manageable and consistent operations. UPSTREAM supports a wide variety of platforms as well as a choice of backup Storage Servers that include open systems Windows, AIX, Sun Solaris, Linux or Linux for zSERIES as the backup Storage Server.



If your organization is like most these days, that is trying to manage an increasing amount of distributed data and do more with less staff, then consider UPSTREAM Reservoir for your enterprise backup solution.

Easy to Install and Configure

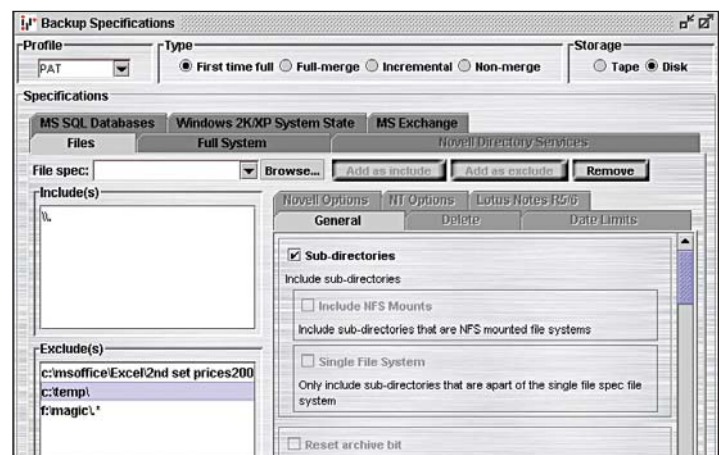
Despite the sophisticated nature of the backup processes, UPSTREAM is a very simple product to install, configure and use. A System Administrator can easily install and configure the UPSTREAM system in a very short period of time and can then create a complete UPSTREAM full merge backup scheme in just a matter of minutes. All the screens have a familiar look-and-feel, allowing an easy selection of files, directories, drives or even whole servers to be backed up.

Simple Backup Schemes

UPSTREAM Reservoir's flexible backup scheme can be used to secure everything from a whole server or application, down to individual folders or files, and these backups can be written to either disk or tape.

In general, UPSTREAM Reservoir's backups usually secure either a single or group of hard-drives in a server, or all the folders relating to one or more applications. These backups are then run at either a "full" level, where everything selected gets backed up, or at an "incremental" level, where only the updated files are backed up.

UPSTREAM provides very simple file specification techniques for defining what is to be backed up. In this example we are backing up all hard drives in the server including Meta data such as the Windows system state (using the special "\\." selection criterion), but we are excluding certain specific folders on the C: and F: drives.



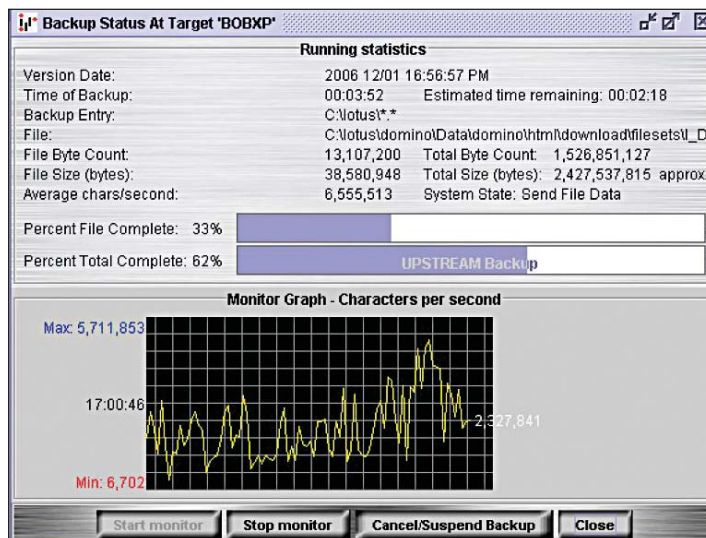
The "Director" Interface

UPSTREAM Reservoir is managed by the easy to use but full featured interface "Director", that can be run from a web browser or workstation anywhere in your network, virtually anywhere in the enterprise.

The Director offers the Systems Administrator a single, system-wide point-of-control for all UPSTREAM Reservoir operations. The Director provides a single universal dashboard view whether you are backing up a UNIX system, Windows system, Novell server or Exchange or Domino database.

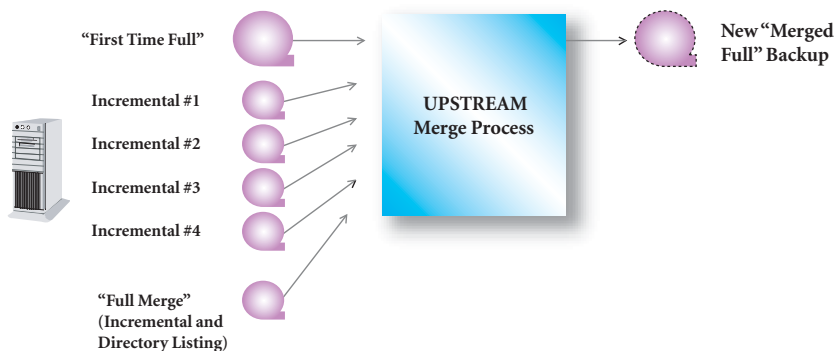
The Director provides control of all UPSTREAM operations and is the interface for creating/managing UPSTREAM backup/restore profiles, allowing ad-hoc and scheduled initiation/control of UPSTREAM backup/restore tasks, and reviewing job logs and reports. It also is used to control tape and disk management, providing online status monitoring facilities, and integration with the event notification services.

In addition the Director includes the "Dispatcher", its comprehensive integrated job scheduler.



Data Reduction Methods... Merge Backup

UPSTREAM provides complete world class data reductions methods such as data compression, online database agents and full merge backups. "Full Merge Backup" scheme allows daily incremental backups to be interspersed with a periodic full, without imposing the heavy consumption of client-side resources usually associated with full backups.



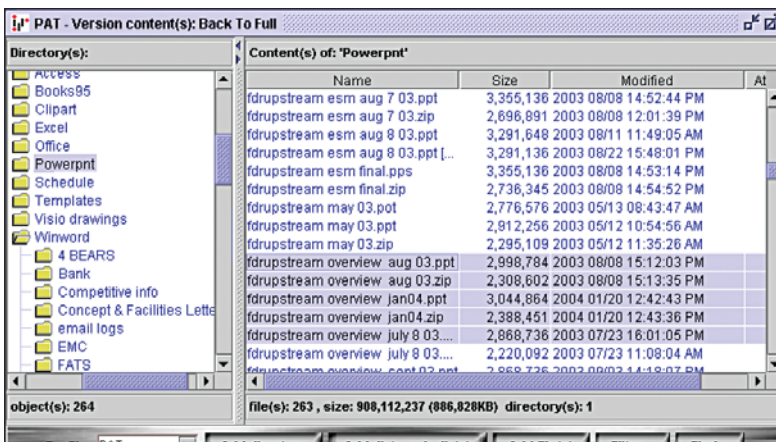
To create a Full Merge Backup, only the changed files are transmitted to the host (as with an incremental). Those files are then combined with a copy of all other unchanged files, which are retrieved from existing backups already held on the host.

A full backup is thus created, using only marginally more client-side resources than a normal incremental, and in significantly less time than a "standard" full, where all files are transmitted across the network from the client to the host.

Full Merge backups help reduce the time and resources required to create a full backup, and can leverage what resources are available; enable the use of both disk and tape technologies. This functionality provides quick access to any files or complete systems that need to be recovered.

File Restores Are Quick and Easy

The RESTORE process from the consolidation of multiple UPSTREAM Reservoir backups onto a single tape is simple as administrators can easily locate the required backup and select the files for restore. This screen shot shows The Director being used to restore selected files from a folder called Powerpnt.



Support for Backups to Disk or Tape

Supporting UPSTREAM's reputation for flexibility and maximum performance to meet your backup window is the ability to backup from disk to disk to tape as well as directly to tape. If written to disk UPSTREAM provides efficient transports and methods for backups to be migrated or vaulted to tape for offsite recovery.

With disk staging, you have the ability to quickly recover from either disk or tape, while also seeing improved backup performance. Disk staging lets you backup from a server to disk that can act as a temporary repository. Your business needs would then define if and when you migrate that data residing on disk to tape. Using this ability to back up to disk can significantly reduce the backup window, and can accelerate both restore and backup operations.

Effective Tape Utilization

UPSTREAM Reservoir also has various mechanisms to allow multiple backups to be written to a single tape, which is especially important when using a Tape Library where overall capacity may be limited. As an example, the full and incremental backups for a single server or workstation can all be written onto a single tape, with UPSTREAM Reservoir requesting the same tape to be mounted each day that the backup runs.

And for even better tape utilization, UPSTREAM Reservoir also has a feature called Profile Sets which allows the backups of multiple servers or workstations to be consolidated onto a single tape and subsequently dealt with as a single entity in terms of their retention and eventual expiration. Profile Sets were designed to reduce administration by making it simpler for the administrator to define policies with a very efficient operation form of grouping. Profile Sets simplifies the definition and policy creation of the backup tasks while also providing excellent tape utilization by stacking multiple file server data on high capacity tapes drives.

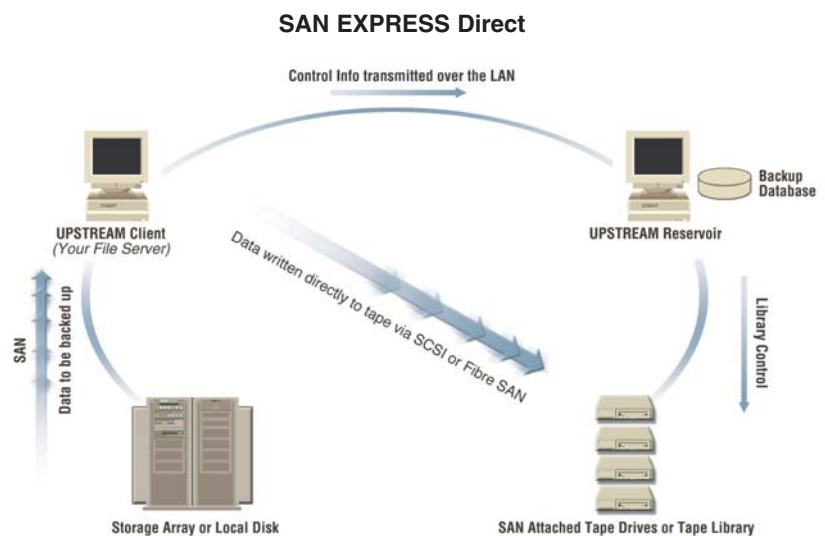
UPSTREAM manages tape media extremely effectively and simply. UPSTREAM supports a wide variety of tape media and libraries. Tapes do not have to be formatted and bar codes are used automatically. At disaster recovery time the library bar code inventory is used exclusively and is automatic, not requiring the reading of tape labels resulting in a recovery that is safe and very fast!

SAN EXPRESS LAN-FREE transfer

INNOVATION's heritage of high performance products continues in that tradition with UPSTREAM Reservoir SAN EXPRESS...support for LAN-FREE data transfer. UPSTREAM Reservoir offers high performance data transfer across a SAN to either tape or disk. When a tape drive is on the same fibre SAN or SCSI chain as both the UPSTREAM client and Reservoir system, UPSTREAM can write directly to the tape drive on the SAN, bypassing the LAN for the backup data — a LAN-FREE backup.

Another optional performance feature, "Passthru", that exploits the SAN is where the backup data is written to a shared disk that is accessible to both the UPSTREAM Client and Reservoir Host. The UPSTREAM

client reads the data from the source disk and writes it to the shared disk. The Reservoir Host then simultaneously reads the backup data from the shared disk and writes it to disk/tape. Either option bypasses the LAN for the bulk of the data transfer from the client to its eventual backup media. The Direct to tape option offers the fastest possible backup to a SAN-attached tape, while the PasThru disk option offers the flexibility to write backups to disk as well as tape, and also allows the backup to be written to a device that the client would otherwise be unable to access.



Management Aids...Copy, Migrate & Vaulting

UPSTREAM provides a variety of methods to easily manipulate and manage whole backups including copying, migrating and vaulting. You might use copy or migrate when you want to reclaim unused space... collect the active backups from multiple tapes that also have deleted backups on tape to a new tape reclaiming space. You can either make a copy of one or more backups to a new tape set, updating the database to point to the new tape.

- Use the migrate feature to either move backups from disk to tape or combine a number of separate tape backups on a single tape.

UPSTREAM provides powerful capabilities for creating copies of your backups for off-site recovery; Vaulting. When a vault copy of a backup is made, it is fully cataloged on the source system, in a vaulting directory.

- Vaulted copies of backups have their own separate tape pools and retention settings, and also can use different media types.
- All off-site backups are locally cataloged.
- When you recover the Reservoir machine you can immediately begin restores for all other systems.
- If you remotely mirror your local Reservoir machine (SRDF or similar) the catalogs for all backups are available remotely.
- Reports show when tapes are to be rotated to the off-site storage and back again.

It's Show Time! ... Disaster Recovery

The causes that can result in a disaster can come in many forms and can happen at any time. Hardware failure, server crashes, data corruption, electrical problems and even human error can all result in the same situation—having to perform an operating system installation and configuration and then restore your data.

In the event of such a disaster, i.e. where complete servers/workstations need to be restored, UPSTREAM Reservoir offers several facilities for the re-construction and restoration of your data:

It can use the powerful combination of the weekly Full-Merge backups, together with the daily Incrementals to provide a complete "Back-to-Full" recovery of drives, folders or even entire applications. The start point of the recovery process can be controlled so that the data can be restored back to the point of any given backup.

UPSTREAM Reservoir also includes its own specially formulated procedures for the recovery of server operating systems, including Windows, Novell and LINUX.

UPSTREAM supports a number of sophisticated replication and recovery techniques including Microsoft's Volume Snapshot (VSS) and Microsoft's Automated System Recovery (ASR) and with the UPSTREAM Rescuer supports disaster recovery of LINUX and Sun Solaris systems.

In some cases these procedures often require just a basic pre-installation of the Operating System, with UPSTREAM then restoring the site-specific configuration files etc.

Since vaults are automatically catalogued, recovery of the Reservoir machine retrieves ALL index information allowing you to effortlessly begin recovering all other systems immediately!

Client Platform Support

UPSTREAM supports a choice of backup Storage Servers that include open systems Windows, AIX, Sun Solaris, Linux or Linux for zSeries as the backup Storage Server and a wide variety of client platforms that include:

- Microsoft Windows
- Novell NetWare
- Intel LINUX
- Linux for pSeries
- Linux for zSeries
- IBM AIX RS/6000
- HP-UX
- Compaq Tru 64 Unix
- Sun Solaris
- Sun X86
- VMware

Business Application Support

As well as backing up standard files and documents, UPSTREAM Reservoir is also 'database aware' and includes specially developed agents to provide online hot backup facilities for the following popular database, messaging and groupware systems:

- Oracle
- IBM DB2 UDB (Universal Database Server)
- Lotus Notes Domino
- Microsoft Exchange
- Microsoft SQL Server
- SAP
- Novell GroupWise

UPSTREAM Reservoir also supports BMC's SQL-BackTrack, allowing UNIX system backups of Oracle, Sybase and Informix, as well as Windows backups of Oracle databases.



EXECUTIVE SUMMARY

◆ **UPSTREAM Reservoir...**

- A **powerful, reliable** and **high-performance** backup/recovery tool for your Open Systems data.
- Provides **centralized, automated** and **unattended** backup/restore across a heterogeneous network.
- UPSTREAM features reduce the administration effort required for the backup process.
- Offers a **flexible** and **scalable solution** for securing anything from large corporate data centers to remote satellite offices.
- **First-class technical support.** Innovation has a solid reputation for providing first-class technical support.

PRODUCT SUMMARY

◆ **High-Performance Backup & Restore**

- Fast, Reliable operations.
- SAN EXPRESS LAN-FREE operations.
- Special data reduction techniques help to reduce network load to a minimum.
- Provides the ability to backup to disk or tape, with option to be backed up to disk (D2D), staged from disk (D2D2T) and automatically moved to tape.
- Easy selection of files, folders, drives, etc.
- Support for Microsoft's Volume Shadow Copy Service (VSS).
- Support for Windows XP Automated System Recovery (ASR).
- Rescuer, stand alone recovery for Intel Linux & Solaris systems.
- XML reporting capabilities.
- Data Migration service.

◆ **Control & Automation**

- Single, consolidated, Java interface via "The Director".
- Automated Scheduling via "The Dispatcher".
- Event notification via E-mail.
- Automatic upgrade & silent install.

Innovation Data Processing

Innovation Data Processing has a reputation for high-quality, competitively priced products, which are backed up by a professional and highly rated technical support service.

UPSTREAM Reservoir is built upon the 30+ years of experience that Innovation has gained working in the Storage Management industry.

UPSTREAM Reservoir has inherited the same high level of product reliability and ease-of-use that are the cornerstone of Innovation's world-renowned **FDR Family** of products, which is currently in use in over 2000 major corporations worldwide.

For More Information

If you would like more information on UPSTREAM Reservoir, contact your local Sales Representative and ask for a free copy of the Concepts & Facilities Guide. Alternatively, visit our website at: www.innovationdp.fdr.com

*UPSTREAM Reservoir is available on a **FREE, No-Obligation Trial.***

Try it for yourself!



www.innovationdp.fdr.com/products/upstreamreservoir

CORPORATE HEADQUARTERS

275 Paterson Avenue, Little Falls, New Jersey 07424 • Tel: 973-890-7300 • Fax: 973-890-7147
E-mail: support@fdrinnovation.com • sales@fdrinnovation.com • <http://www.innovationdp.fdr.com>



EUROPEAN OFFICES

FRANCE

INNOVATION DATA PROCESSING
S.A.R.L.
191, avenue Aristide Briand
94230 Cachan
Tél: (33) 1 49 69 94 02
Fax: (33) 1 49 69 90 98
E-mail: frsales@fdrinnovation.com

GERMANY

INNOVATION DATA PROCESSING
INTERNATIONAL LTD.
Orleansstraße 4a
81669 München
Tel: 089-489 0210
Fax: 089-489 1355
E-mail: desales@fdrinnovation.com

NETHERLANDS

INNOVATION DATA PROCESSING
Brouwerstraat 8
1315 BP Almere
Tel: 036-534 1660
Fax: 036-533 7308
E-mail: nlsales@fdrinnovation.com

UNITED KINGDOM

INNOVATION DATA PROCESSING Ltd.
Clarendon House
125 Shenley Road
Borehamwood, Herts, WD6 1AG
Tel: 0208 905 1266
Fax: 0208 905 1428
E-mail: uksales@fdrinnovation.com