

SYNAMETRICS TECHNOLOGIES A Division of IndusSoft Technologies, Inc

DeltaCopyUser's Guide

SYNAMETRICS TECHNOLOGIES

DeltaCopy User's Guide

© Synametrics Technologies 27 Sand Hill Ct., Jamesburg, NJ 08831 Phone 732-605-7086 • Fax 732-909-2341

Table of Contents

Features 1

Software Components 2

DeltaCopy Server 2 DeltaCopy Client 2

System Requirements 2

Files copied during installation 3

Running the Server Console 3

Managing Virtual Directories 6 Add a new virtual directory 6 Using Authentication 6 Running the Server on Linux/Unix 7 TCP/IP ports 7

Running DeltaCopy Client 7

Adding New Profile 8 Adding files to a profile 9 Where do the files go on the server? 10 Example 1: 10 Example 2: 10 Change the value for Target Path 10

Using Authentication 11

Running tasks 12

Running manually 12 Creating a Schedule 13

Restoring Backup Files 14

Email Notifications 15

Email Relaying 16

Chapter

Introduction

DeltaCopy - An efficient backup and recovery tool

n general terms, DeltaCopy is a fast incremental backup and recovery software. For example if you have a 500 MB file that you backup every night, rather than copying the entire 500 MB DeltaCopy will only copy sections of the file that has actually changed. Therefore, the actual data transfer will only be a small fraction of the entire file.

In technical terms, DeltaCopy is a wrapper around the "rsync" algorithm, currently maintained by Wayne Davison. "rsync" is primary designed for Linux/Unix based systems with ports available for many other platforms. For more details regarding "rsync", visit <u>http://samba.anu.edu.au/rsync/</u>. Besides "rsync", DeltaCopy also uses "Cygwin" (<u>http://cygwin.com</u>) libraries, which emulates a Unix environment for Windows binaries.

Features

Incremental Backup	Copies sections of the file that were actually modified rather than copying the entire file. This make copying large files extremely fast.
Scheduler	DeltaCopy is fully Integrated with Windows Scheduler, allowing users to schedule their back tasks.
Email Notification	Email notifications can be sent to administrators when a backup task fails
One-click Restore	Backed up files can be restored with a single mouse click

Software Components

DeltaCopy is based on a client/server model where clients connect to a remove server and transfer files. The installer includes binaries for client as well as server.

DeltaCopy Server

i.

	There are two components of the server:		
REMEMBER	Windows Service		
Z Runs as Windows Service			
DeltaS.exe is the console	 Server Console 		
to start and stop the	Windows Service, just like any other service application on		
service	Microsoft Windows platform, runs in the background		

waiting for clients to connect.

Server Console on the other hand is a GUI application used to start/stop the service and modify configuration on the server.

DeltaCopy Client

The client piece of the software is responsible for initiating the backups. It is tightly integrated with Windows Scheduler allowing backup tasks to run based on a user-defined schedule.

System Requirements

Following requirements apply to both server and client.

- OS: Windows NT 4.0, XP, 2000, 2003 or above
- 64 MB Ram
- 6 MB hard drive (excluding the space required for backup)
- 100 MHz processor or better

Chapter

Installation and Configuration

Installation is straightforward - download a copy of the Installation file from the website and run the installer. Follow the instructions on screen to install the file.

Files copied during installation

In order to use DeltaCopy you really do not need an installation program. Copying files from one machine where the binaries are already installed should also work just fine. Installation is provided for convenience purposes only. Following files are copied to your machine during installation

- DeltaC.exe DeltaCopy Client program
- DeltaS.exe DeltaCopy Server console program
- DCService.exe DeltaCopy Service for Windows
- Rsync.exe "Rsync" binary.
- Deltacd.conf Default configuration file for Rsync
- Cygpopt-0.dll and cygwin1.dll Required DLLs for Cygwin

No other files are copied to your machine besides the one specified above. If you decide to move the installation from one machine to another, these are the only files you need.

Running the Server Console

Before terminating, the installer process will start DeltaCopy Server Console window.



Click the "Register Windows Service" button to register DeltaCopy Service with Windows. Once the service is installed you can start/stop the service with from this console window or the Service Manager in Windows.

🍓 Services					\mathbf{X}
<u>File A</u> ction <u>V</u> iew	<u>F</u> ile <u>A</u> ction <u>V</u> iew <u>H</u> elp				
← → 🔳 🖀 🕻	3 🖪 😫 🕨 🗉 🕫				
Services (Local)	Name 🛆	Description	Status	Startup Type	^
	DCOM Server Proce	Provides la	Started	Automatic	
	BeltaCopy Server			Automatic	
	DHCP Client	Manages n	Started	Automatic	
	Distributed Link Tra	Maintains li	Started	Automatic	
	Distributed Transac	Coordinate		Manual	
	DNS Client	Resolves a	Started	Automatic	
	Error Reporting Ser	Allows erro	Started	Automatic	
	Event Log	Enables ev	Started	Automatic	
	Fast User Switching	Provides m	Started	Manual	_
	STP Publishina	Provides F		Manual	~
	<	Ш			>
	Extended Standard				

🔑 DeltaCopy Server	
DeltaCopy Server Console	
Server Status Virtual Directories	
	Stop Server r:: Start Server

Click the "Start Server" button to start the service. If the service starts successfully, you should see a green light.

A DeltaCopy Server	
DeltaCopy Server Console	
Server Status Virtual Directories	
	Stop Server ⇒ [*] i Start Server

Managing Virtual Directories

Virtual directories provide a mapping between an actual physical path on your hard drive to an alias. When clients connect to your server, they only see the alias names, not the actual path.

🔑 DeltaCopy Server			
<u>File H</u> elp			
DeltaCopy Server	r Console	9	
Server Status Virtual Direct	tories		
Virtual directories in DeltaCopy is similar to a virtual directory in an FTP or an HTTP server. You can have multiple virtual directories each refering to a different path on your hard disk			
Existing Directories	Directory op Path: C:\data Comment: User Name: Password:	Browse General backup Use Authentication Read only TIP: Leave user name and password blank if you do not want to use authentication.	
<u>·</u> 1		Close	

Advance Users: Rsync offers some additional configuration parameters, which cannot be modified through GUI. Modify the deltacd.conf file to add other parameters.

Add a new virtual directory

To add new virtual directories, double click "<Add New Directory>" link in the list box. Once you see your newly added alias in the list, specify the actual path for the alias.

The directory MUST exist on the machine in order for the file transfer to work.

Using Authentication

Using authentication is optional. If you decide to use authentication, specify a pair of user id and password. You will have to specify same user id and password in DeltaCopy client.

Note: Closing the Server Console Window does not affect the service. To start/stop service you must either click on the appropriate button or do it from Windows Service Manager.

Running the Server on Linux/Unix

It is possible to run the server application on Linux/Unix and other Unix like platforms like BSD and Apple OS X. Refer to <u>http://samba.anu.edu.au/rsync/</u> to get the binaries for other platforms.

TCP/IP ports

DeltaCopy server listens on TCP port 873. You might have to open this port up through your network firewall if going through the Internet.

Running DeltaCopy Client

DeltaCopy Client is the main executable that is used to create, run and schedule backup tasks.

IMPORTANT

Run DeltaCopy Server on a machine before running the client .

To run the client chose the appropriate icon from the "Start" button or double click "DeltaC.exe"

DeltaCopy			
1 6 4			
Existing Profiles	File List Options		
📝 <add new="" profile=""></add>	Files/Folders to copy		
👸 Tarzan Backup	C:\tutorial\bcb\DeltaCopy\temp\JustName.txt	-	
්ඩ් Batool		Add Folder	
		Add Files	
	Server Name: batoolhus Virtual Directory: Temporary Profile Key: Batool		
Copying Schedule			
No schedule has been assign Schedule button to assign a	ed to this profile. Click the Add schedule.		
	Mod	lify Schedule	
	Ad	d Schedule	

Adding New Profile

Task in DeltaCopy are managed through profiles. A profile is a logical grouping of Files and Folders that you wish to backup/restore together.

Use one of the following methods to create a profile.

- Double click on "<Add New Profile> entry in the list box
- Click the "Create new profile" button on the main toolbar.
- Click the right mouse button and select "Add Profile"

This brings up the new profile dialog box.

New Backup Profile	
New Profile	
Profile Name:	A Friendly Name
Server IP/Host Name:	MyServer
Virtual Directory Name:	DailyBackup 💌
	Assign to scheduler
Add Profile T	est Connection

Important: Click the "Test Connection" button to verify the client can successfully connect to the server.

Profile Name	This is a friendly name for this profile.
Server Host	This refers to the host name or IP address of the machine running DeltaCopy server or an rsync daemon running on a Linux or Unix machine. Server listens on port 873.
Virtual Directory	This refers to the virtual directory alias you have created on the server. Click the but next to the combo box to fetch all available directory names

Click the "Add Profile" button to add this profile.

Adding files to a profile

Follow the steps below to add files to a profile.

- Select the desired profile from list on the left
- Click "Add Folder" or "Add File" button on the right
- Or, drag files from Windows Explorer in the file list box

Where do the files go on the server?

When you run a task in DeltaCopy, files are copied from the client machine to the server machine. The physical path mapped for that virtual directory specifies the actual location on the server machine. Further directories are create on the server machine under the virtual directory root. These directories are specified by the value specified as "target path" on the client.

DeltaCopy client program create a default value for Target path, which can be modified by the user. The table shows some example of where the files will get copied

Example 1: Physical file on client	C:\Program Files\Important Files\MyDoc.doc
Target Path set on client	Important Files
Virtual Directory on server	MyBackup
Physical path on server	D:\Backups\MyBackup

Assume input parameters are as specified in the above table. The actual location of the file on server will be:

D:\Backups\MyBackup\Important Files\MyDoc.doc

Example 2: Physical directory on client	C:\Program Files\Important Files\
Target Path set on client	Important Files
Virtual Directory on server	MyBackup
Physical path on server	D:\Backups\MyBackup

Assume input parameters are as specified in the above table. The actual location of the file on server will be:

D:\Backups\MyBackup\Important Files\

Change the value for Target Path

DeltaCopy creates a default value for the target path when you add a folder or file to a profile. Follow the steps below to change this default value.

- Select the desired profile from the list box on left
- Select the path from list box on right
- Click the right mouse button and select "Modify target path"

🕸 DeltaCopy		
🛛 🖻 🗳 🥙		
Existing Profiles	File List Options Files/Folders to copy	
រឹត្តំ Tarzan Backup រឹត្តំ Batool	C:\4Sun\ C:\scr C:\scr C:\scr C:\Prc Delete Selection Server Name: www2.winsql.net Virtual Directory: tarzan Profile Key: TarzanBackup	Add Folder Add Files
Copying Schedule NT Account name: TARZAN\imm Created by : imranh Status : Ready Last ran at : 12/2/2005 Next run at : 12/4/2005 Max run time : 259200000 Comments : Scheduled	ranh 1:00:00 AM 1:00:00 AM (ms) task for Tarzan Backup	Modify Schedule Delete Schedule

Using Authentication

While setting up a Virtual Directory on DeltaCopy Server, you have an option of using authentication. The user id and password you specified for server configuration must be provided in the client as well.

Click the "Authentication" tab and specify the values for user id and password.

🏶 DeltaCopy	
Eile Edit Help	
📔 🖸 🥙	
Existing Profiles	File List Options Authentication
 ✓ Add New Profile> ♣ Tarzan Backup ♣ Batool ♣ Test2 ♣ Tarzan Documents 	Authentication Specifying a user id and password is optional. You must configure a virtual directory in DeltaCopy server to accept user id/password before specifying it here. User ID: Password:
Copying Schedule	
	Modify Schedule
	Add Schedule

Running tasks

There are two ways to run a task associated with a profile

- Manually
- Through Windows Scheduler

Running manually

To run a task manually, select the desired profile, click the right mouse button and select "Run Now"

DeltaCopy		
🛛 🖻 🗳 🥙		
Existing Profiles	File List Options	
📝 <add new="" profile=""></add>	Files/Folders to copy	
Tarza Run Now Display Run Command Nestore Restore Display Restore Command Add Profile Delete Profile	C:\4Sun\ C:\tutorial\ C:\scripts\ C:\BatoolHusBackup\ C:\Program Files\Apache Group\ Server Name: www2.winsql.net Virtual Directory: tarzan Profile Key: TarzanBackup	Add Folder Add Files
Copying Schedule		
NT Account name: TARZAN\imp Created by : imranh Status : Ready Last ran at : 12/2/2005 Next run at : 12/4/2005 Max run time : 259200000 Comments : Scheduled	ranh 1:00:00 AM 1:00:00 AM (ms) task for Tarzan Backup	Modify Schedule Delete Schedule

This will start the backup procedure and will display the status in the next window

Creating a Schedule

When you create a new schedule, in the background you actually create a new task in Windows Scheduler, which is tightly integrated with DeltaCopy.

Since DeltaCopy uses a service provided by the operating system to schedule tasks, the login account you use the create schedule must have enough permissions on the machine.

To create a new schedule, click the "Add Schedule" button, which brings up the Scheduler screen available.

Batool ? 🔀		
Task Schedule	Settings	
C:\WINDOWS\Tasks\Batool.job		
<u>R</u> un:	C:\tutorial\bcb\DeltaCopy\Batool.dcp	
	Browse	
S <u>t</u> art in:	C:\tutorial\bcb\DeltaCopy\	
<u>C</u> omments:	Scheduled task for Batool	
Run as:	TARZAN\imranh	
Run only if logged on Enabled (scheduled task runs at specified time)		
	OK Cancel Apply	

IMPORTANT: Note that the actual file specified in the Run field is not DeltaC.exe but the profile file with DCP as the file extension

Restoring Backup Files

To restore backup files, select the desired profile, click the right mouse button and select "Restore".

IMPORTANT: When files are restored the files on the client gets updated by the copy on the server. Incorrect usage may result in lost of data.

Ø DeltaCopy		
D B &		
Existing Profiles File List Options Image: Add New Profile> Files/Folders to copy Image: Add New Profile> Image: Add New Profile>	Jame bit	
Run Now Display Run Command Restore Display Restore Command Add Profile Directory: Delete Profile Profile Key:	Add Folder Add Files	
Copying Schedule NT Account name: Created by : imranh Status : Not Scheduled Last ran at : Never Next ran at : Not specified Max run time : 25920000 (ms) Comments : Scheduled task for Batool Delete Schedule		

Email Notifications

DeltaCopy can optionally send email notifications when a scheduled task completes. Click the "Configure Email Notification" on the main tool box.

DeltaCopy		
Existing Profiles	File List Opt	
😥 /Add New Profiles	Files/Folders	
🛃 Tarzan Backup	C:\tutori	
Tarzan Backup	C:\tutori	
Tarzan Backup	■ C:\tutori	

This brings up the following window.

Email Notifications		
Configuring Email Notifications		
Email notifications can be sent to specified users once data transfer is completed. Use the following screen to specify necessary parameters for these email messages.		
SMTP server:	mail.yourcompany.com	
Sender's Address:	admin@yourcompany.com	
Notification recipients:	admin@yourcompany.com	
	Send email for successfull attempts	
	Send email for failed attempts	
<u>O</u> k	<u>C</u> ancel	

SMTP Server – This is the host name or IP address of your company's SMTP server.

Sender's Address - Email address that is used as a sender

Recipients – Email address(es) of the recipients. Multiple addresses should be separated by a comma.

Email Relaying

The current version of DeltaCopy cannot submit user id and password to your email server. Therefore, either you need to configure your SMTP server so that it accepts relays from the machine running DeltaCopy or use the SMTP server that accepts messages for your domain.

Example – Let's say your email address is <u>myname@mycomp.com</u>. The IP address of your email server (this server is configured to accept emails for "mycomp.com") is 192.168.1.5. In this case your email server will not require a user id and password for inbound emails sent to it.