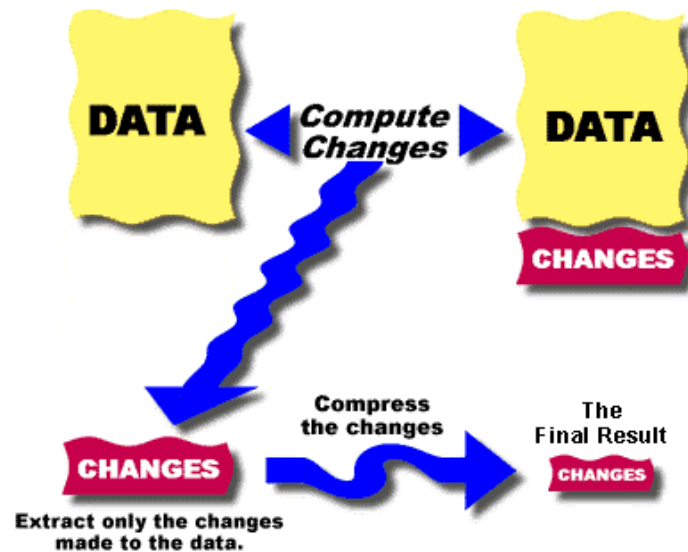


The incremental binary patching process is the core technology behind our revolutionary FirstBackup program. The patching process involves the comparison of two different versions of the same file and extracting the differences between the files. When the differences are extracted from the two files, they are saved into a new file and compressed into what is known as a patch. The patch file is often 85% to 99.9% smaller than the file which the patch was extracted from originally.

Applying this technology to the backup process will reduce the use of communication lines, backup tapes, and physical storage, all leading to one thing... Cost Savings! Reduce your costs without sacrificing the integrity of your backups. Here's how our incremental binary patching technology is applied to your backup process.

When our backup program encounters a file for the first time, it compresses the file and sends it securely to the backup server. Once a file has been compressed and sent to the server, never again will we send that entire file to the server. All future changes to your files will result in *only the changes within the files* being sent to the server.



When the changes are received by the server, they are applied to your backup files creating a complete up-to-date copy of your file system. Your daily incremental binary patch backup files are stored separately on the server allowing the flexibility of restoring any file(s) from your backup data as of any point in time. The standard backup archive window is set at 30 days, and can be optionally extended.

If you are wondering about the reliability of the patching technology, there's no need to wonder anymore. This technology is not new. It has been the only choice for IBM, Microsoft, Novell, and many other hardware and software companies needing to update commercially distributed software. FirstBackup is the first to tightly integrate this existing technology into a high performance backup application.

The incremental binary patching process manipulates files at the binary level. This means it can process any file type without error. Different types of files will yield different binary patch sizes based on the binary organization of the file. In the following table, we provide some incremental binary patch statistics to illustrate this point further.

File Type	Original File Size (in bytes)	Change Description	Changed File Size (in bytes)	Patch Size (in bytes)	% Reduction patch/changed file
Windows BMP (8-bit)	307,514	Added text to center of image	308,278	2,615	99.15%
Microsoft Word v7.0	431,616	Copied text from middle and pasted at end	448,512	13,598	90.60%
Microsoft Excel v7.0	108,544	Inserted new Worksheet; created basic calculation and added 3-D Bar-Graph	114,176	5,915	94.82%
Microsoft Access v2.0	1,802,240	Added 3 new records	1,802,240	5,700	99.68%
Intuit QuickBooks	1,265,664	Paid 4 bills and added 2 invoices	1,301,504	8,074	99.38%
Photoshop File	515,473	Added new layer and added text to new layer	524,769	4,480	99.15%
Plain Text File	37,084	Added text to beginning, middle and end of file	39,123	1,285	96.72%
Total	4,468,135	Average Daily Backup	4,538,602	41,667	99.08%

Binary Patching reduces the average daily backup by OVER 99%