



### **The Redvers Compression Algorithm gives you the ability to reduce memory overheads, carbon emissions and data storage costs without compromising your data assets.**

Redvers Consulting have engineered a compression and deduplication algorithm specifically designed to produce optimal compression rates for data held in COBOL format. The algorithm is also designed to use minimal computer resources, especially when decompressing, so that archived information can be retrieved on-line with minimal disruption.

#### **Main features:**

- Reduced machine memory overhead
- Money saved on DASD hardware
- Faster disk I-O
- Time and space saved when archiving
- Reduced carbon footprint
- Compression rates up to 75%
- Runs on any COBOL platform
- Distributed in COBOL source code ("cloaked")
- Fast decompression rate for real-time retrieval
- Also works with non-COBOL data
- Supports calls from batch or on-line
- **Free 30 day trial available**

The **Redvers Compression Algorithm** consists of a pair of simple but efficient COBOL subroutines that compress and decompress data strings as required. These data strings can be single fields, parts of a record, complete records or even a file of concatenated records.

Field level compression can be used to exclude record keys from the compression process, leaving the structure of databases and indexed files unchanged. This approach also gives applications access to compressed data without the need to decompress the whole file, disk or tape first.

As the software is distributed in COBOL source code, it can be run on **IBM mainframe, iSeries, UNIX, HP, CA-Realia, Fujitsu Siemens BS2000, Micro Focus** or any other COBOL platform.

## How it Works

Compression can be performed in a one-off batch procedure that selects the data suitable for compression. This data is passed to the Redvers compression routine (**RCCMPRES**) which returns the string in its compressed form. The compressed string can then safely replace the original data.

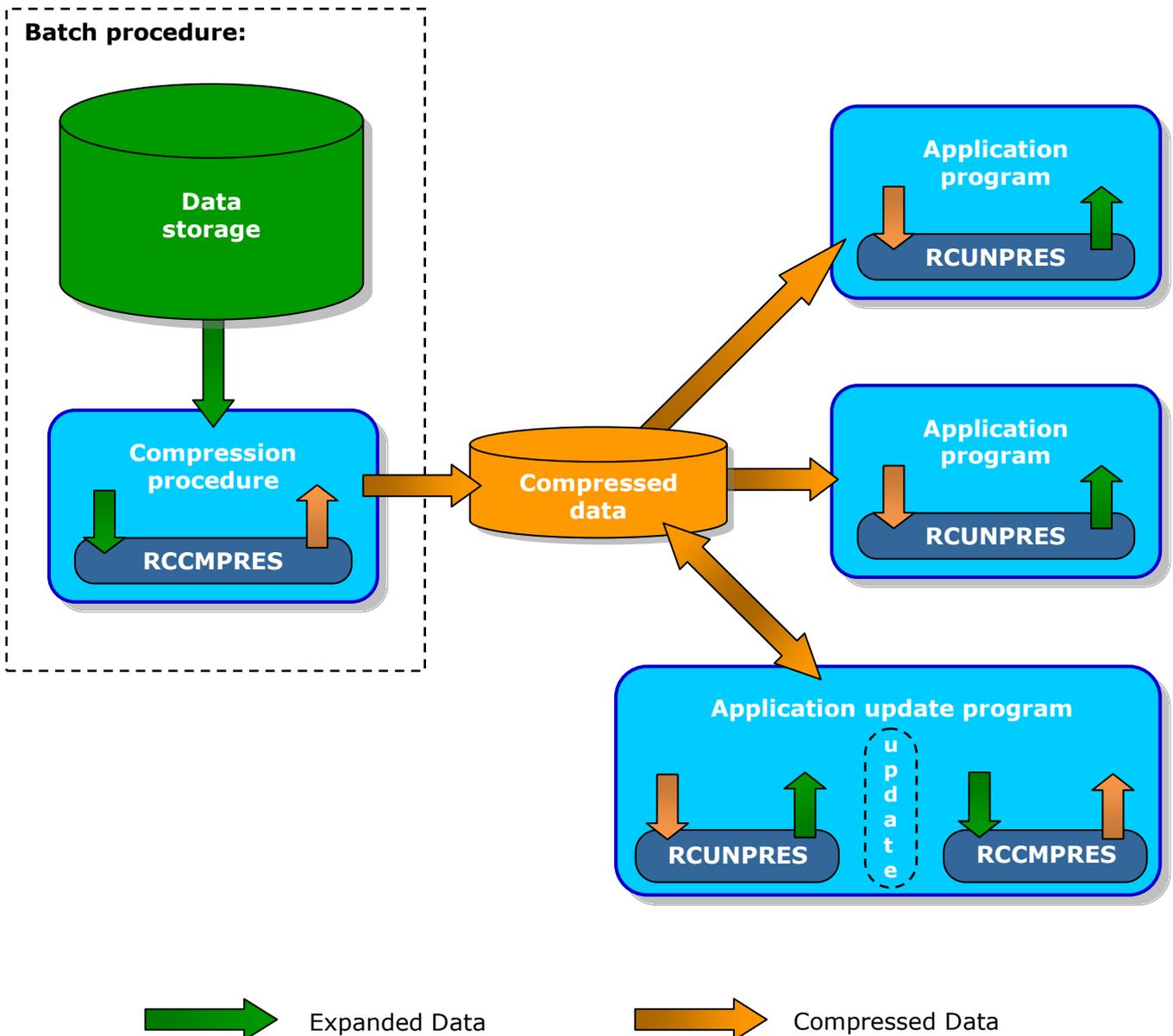
Application programs that require the compressed information, pass the compressed string to the decompression routine (**RCUNPRES**) which returns the data string in its standard form. No other files, keys or parameters are required.

If an application needs to update compressed information, the updated details are passed through **RCCMPRES** and the output rewritten to the compressed data store.

Disk space in databases and indexed files can be saved by leaving key information unchanged, rewriting only the data components in their compressed state.

Compressed data can always be recovered because there are no keys to lose.

The diagram below shows how a compression / decompression procedure might be used in a typical application environment.



## Technical Information

The **Redvers Compression Algorithm** 2.1 uses a “lossless” compression algorithm designed and developed by Redvers Consulting. This algorithm provides optimum compression rates for COBOL application type data, using minimal computer resources. The algorithm can also be used to compress data not in COBOL format.

The algorithm is not “Huffman” or “arithmetic” based and doesn’t require the overhead of building a probability tree and adding it to the compressed string. However, it does use a standard “sliding window” technique for data deduplication.

The size of the “sliding window” can be adjusted by the application to respond to different system priorities: a large window will produce better compression ratios but require more CPU time; a small window will result in poorer compression ratios but require less CPU time.

As **RCCMPRES** and **RCUNPRES** are standard COBOL programs, compiled at the customer’s site, any limit on the length of data strings passed, are defined by the limitations of the compiler used.

### Compression techniques include:

- Deduplication of repeated characters such as spaces or zeroes.
- Application data deduplication (within the “sliding window”).
- The breaking down of commonly used characters into shorter bit patterns.
- Preserving random bit patterns caused by the presence of binary data fields.

Input data can be in the **ASCII** or **EBCDIC** character sets and it can be encoded using single or double byte characters.

Actual compression rates range from approximately **35%** to **75%** depending on the length of the input data string and the length of the “sliding window”.

Compression time is **0.3 megabytes per CPU second** (using a “sliding window” of 400 bytes) and decompression is more than **14 megabytes per CPU second**. All benchmark timings were performed on an IBM zSeries mainframe running z/OS 1.10.

## The Product Package

A perpetual license for the **Redvers Compression Algorithm** can be provided for a one-off fee. Alternatively, the software can be leased on an annual basis for 20% of the perpetual license cost (minimum two years).

### All licenses include:

- Product source code (“cloaked”)
- Sample COBOL calling program
- User Guide
- Corporate level software license
- Two year warranty
- Product upgrades and support via email\*

### Additional options:

- 24 x 7 telephone hotline support
- Software escrow agreement with Software Escrow Solutions

Software and documents are shipped in the form of email attachments unless otherwise requested. Installation is performed by copying the source code text into your COBOL source code library and running your standard site compiler.

Full pricing details can be found at: [http://www.redversconsulting.com/data\\_compression\\_pricing.php](http://www.redversconsulting.com/data_compression_pricing.php)

\* Free for the first two years followed by a minimal annual fee.

## About Redvers Consulting

Redvers Consulting have been providing top quality products and services for COBOL applications since 1988. Our clients are primarily large financial institutions in Europe and North America, although we also have customers in many other business and geographical areas.

Our ability to deliver software in COBOL source code form, gives customers reliable, efficient and perfectly integrated solutions to business needs. Source code distribution also means our software will run on all hardware platforms and operating systems: *EBCDIC, ASCII, big endian or little endian*.

We are business partners with **IBM, HP and Fujitsu Siemens**, and our development team are members of the **Professional Contractors Group**. In 2009 we won the Thames Gateway **Best use of Technology Award**.

### Our client list includes:

Agora (FR)  
ANZ (AUS)  
Barclays Life Assurance (UK)  
Canada Life Assurance (UK)  
Deutsche Bank (USA)  
Deutsche Rentenversicherung Bund (DE)  
FirstBank (USA)  
Fiserv (USA)  
GMAC Insurance (USA)  
Hanesbrands (USA)  
John Deere (USA)  
LBS / Finanz Informatik (DE)  
J P Morgan (USA)  
Oppenheimer (USA)  
Pacific Gas (USA)  
Network Rail (UK)  
R+V Allgemeine Versicherung (DE)  
Sasktel (CAN)  
SEB (DE)  
Standard Life Assurance (UK)  
Suncorp (AUS)  
SunGard / FIS (USA)  
WorkSafeBC (CAN)  
Zurich Insurance (UK & SUI)

**Contact:** <https://www.redversconsulting.com/contact.php>

### Development Office:

Redvers Consulting Ltd  
44 Broadway,  
London E15 1XH,  
UK

**Tel:** +44 (0)203 130 0773

**Fax:** +44 (0)700 603 8655

### Accounts Office:

Redvers Consulting Ltd  
1st Floor, 48 Dangan Rd,  
London E11 2RF,  
UK

**Tel:** +44 (0)870 922 0633

**Fax:** +44 (0)707 505 5472

### German Office:

Redvers Consulting Ltd  
Postfach 30 03 26,  
50773 Köln,  
Deutschland

**Tel:** +49 (0)221 1704 9000

**Fax:** +49 (0)221 271 1016