

Data Compression Library

Compression software that can be embedded in electronic products

ESLC A product focused on compression ratio and compression speed by adopting a statistical method.

RELC A product focused on decompression speed by adopting a dictionary method.

ESLC/ RELC are the compact libraries requiring small memory spaces.
Available for various types of microcontrollers (CPUs).

■ Features

- Require only small memory spaces
Can be embedded in limited ROM/RAM capacity
- Memory interface
Memory to memory direct interface
- Multi-platform
The compressed data can be exchanged between servers, PCs, PDAs, cellular phones, handy terminals etc.
- Compression algorithm
Adopted lossless compression method developed by Fujitsu Laboratories Ltd. and Fujitsu Electronics Inc. for embedded systems.

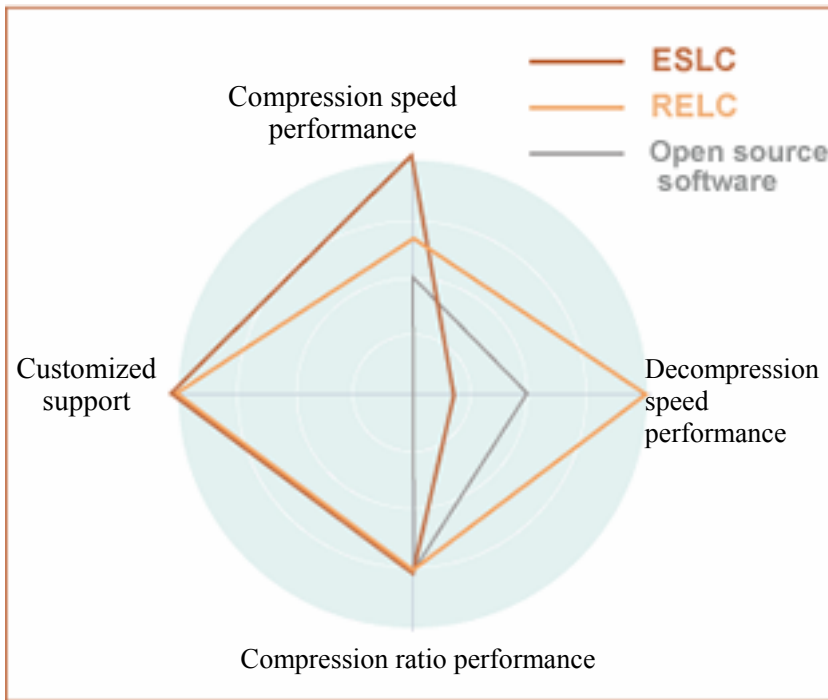
■ Usages and Advantages

- Programs on electronic products and devices
Shortens boot time and program update time and reduces the number of units
- Networks
Reduces communication packets
- Attached software
Reduces the number of application-CDs or recovery-CDs
- Storage device
Expands memory capacity of the device

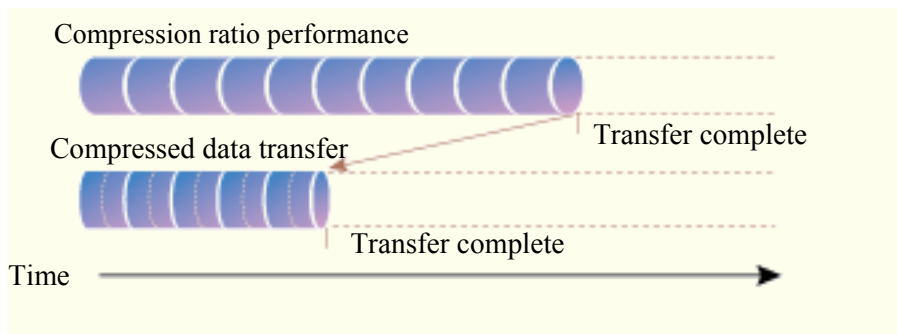
■ Examples of Use

- Home electric appliances or commercial equipment
- Networks using PDAs or cellular phones
- Attached software (e.g. PCs)
- Memory devices

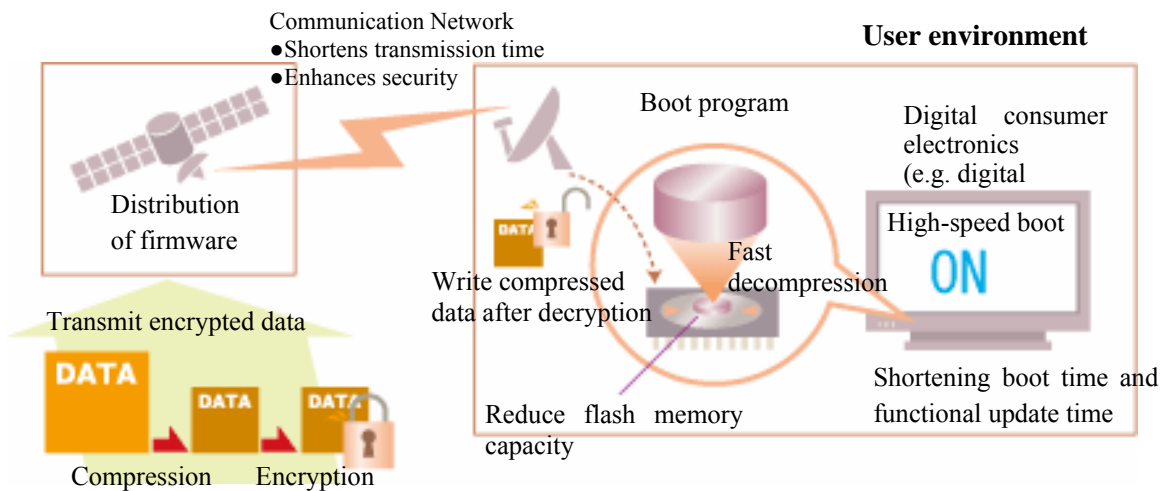
■ Functional comparison (further out on the axis is better)



■ Example of packet communication



Enhancing security, shortening boot time and saving memory space



Product name		ESLC	RELC
Functional overview		Library to compress and decompress one file	
Target platform ^{*1}	WS/PC/PDA	Windows®, Windows®CE, Solaris™ Operating System, Linux ^{*2} , Java (J2SE, i-appli, etc.)	
	Processors	FR, FR-V, ARM, SH, MIPS etc. ^{*3}	
Compression algorithm		Engine focused on compression speed performance adopting a statistical method	Engine focused on decompression speed performance adopting a dictionary method
Program (ROM) size ^{*4} Kbytes	Compression /decompression	3.0	3.0
	Decompression only	1.6	0.6
WORK (RAM) size ^{*5} Kbytes	Compression /decompression	18~279	129
	Decompression only	17~148	0.05
Performance ^{*6}	Compression ratio ^{*7}	Approx. 41%	Approx. 42%
	Compression Speed ^{*8}	Compression speed is twice as fast as ZLIB	Decompression speed is twice as fast as ZLIB

*1: Please confirm the latest information on target platforms on our official web site.

*2: Support for various types of Linux is on a case-by-case basis. This software is a proprietary product and not applied to GPL/LGPL.

*3: Support for various types of CPU is on a case-by-case basis. Functions are guaranteed by ISS(Instruction Set Simulator).

*4: The size is when CPU is ARM9TDMI (ARM) (depending on CPU or compiler).

*5: WORK size is depending on the value of parameter.

*6: The performance comes from the result of the measurement using Calgary Corpus data (depended on the data).

*7: The compression ratio comes from the calculation result of the compressed size divided by the original size (the smaller number indicates the better performance).

*8: The process speed comes from the measurement result using ARMulator (depending on operation environment, such as CPU).

Recommended data

Text, Excel, CSV, CAD, EDI etc.

Not recommended data

Already compacted data, highly random data etc.

Comparison with open source software

You can use our software for business purposes without concern about patent issues related to compression algorithm and operational guarantee, quality, maintenance, support etc. We adopted the technology, which is different from Stac's (the U.S.) patent, so we recommend our data compression software products as your compression software for business purposes without concerning about patent related issues.

Encryption library

We can provide you the data encryption libraries.

Customer support

We offer flexible services, such as adding functions or customization.

Sales performance

Our products have been adopted by many companies since the release of the products in 1995 (MS-DOS version in the beginning).

*SLC: Super Lossless data Compression (developed by Fujitsu Laboratories Ltd.)

*ELC: Embedded Lossless data Compression (developed by Fujitsu Laboratories Ltd.)

*AES: Advanced Encryption Standard

*Windows is registered trademark of Microsoft Corporation in the United States and other countries.

*Sun, Sun Microsystems, the Sun logo, Solaris and all trademarks and logos that contain Solaris are trademarks or registered trademarks of Sun Microsystems, Inc. in the United States and other countries.

*Company names and product names are trademarks or registered trademarks of their respective owners.

- The target platforms include the products under development.
- The contents of this document are subject to change without notice. Customers are advised to consult with our sales representatives before ordering.
- The information, such as descriptions of function and application circuit examples, in this document are presented solely for the purpose of reference to show examples of operations and uses of our software; we do not warrant proper operation of the software with respect to use based on such information.
- The products described in this document are designed, developed and manufactured as contemplated for general use, including without limitation, ordinary industrial use, general office use, personal use, and household use, but are not designed, developed and manufactured as contemplated (1) for use accompanying fatal risks or dangers that, unless extremely high safety is secured, could have a serious effect to the public, and could lead directly to death, personal injury, severe physical damage or other loss (i.e., nuclear reaction control in nuclear facility, aircraft flight control, air traffic control, mass transport control, medical life support system, missile launch control in weapon system), or (2) for use requiring extremely high reliability (i.e., submersible repeater and artificial satellite).
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