zstd Fast compression

CONCEPTS

zstd keeps the input file by default and adds .zst. Use --rm to delete the original once it succeeds.

--fast=N fastest, largest
↓ -1
-3 default balance
↓ -19
--ultra -22 smallest, slow, lots of RAM
Level versus speed

COMPRESS

zstd *<file>*
Compress, keep original (<file>.zst)

zstd *<file>* **-o** *<out>*
Choose the output name

zstd -<*n*> *<file>*
Level 1-19 (default 3)

zstd -c *<file>* **>** *<out>*
Write to stdout, keep input

zstd --rm *<file>*
Remove input after success

zstd -f *<file>*
Overwrite existing output

zstd -r *<dir>*
Compress each file in a directory

zstd *<a> <b> <c>*
Compress several files at once

zstd --fast=<*n*> *<file>*
Faster than level 1, lower ratio

zstd --ultra -22 *<file>*
Levels 20-22, heavy memory use

DECOMPRESS

zstd -d *<file>***.zst**
Decompress, keep the .zst

unzstd *<file>***.zst**
Same as zstd -d

zstd -dc *<file>***.zst**
Decompress to stdout

zstdcat *<file>***.zst**
Print a compressed file

zstdless *<file>***.zst**
Page a compressed file

DECOMPRESS (cont.)

zstdgrep *<pattern>* *<file>***.zst**
Search inside a compressed file

zstd -d *<file>***.zst -o** *<out>*
Choose the output name

zstd --test *<file>***.zst**
Verify integrity only

INSPECT

zstd -l *<file>***.zst**
Frames, sizes, ratio, checksum

SPEED AND MEMORY

zstd -T0 *<file>*
Use all physical cores

zstd -T<*n*> *<file>*
Use n threads

zstd --long *<file>*
Long-range matching for big, repetitive data

PIPES AND TAR

tar --zstd -cf *<a>***.tar.zst** *<dir>*
Create a tar.zst

tar --zstd -xf *<a>***.tar.zst**
Extract a tar.zst

tar -tf *<a>***.tar.zst**
List contents

tar -I 'zstd -T0 -19' -cf *<a>***.tar.zst** *<dir>*
Pick level and threads for tar

tar -cf - <dir> | zstd -T0 > *<a>***.tar.zst**
Pipe tar into zstd

zstd -dc *<a>***.tar.zst | tar -xf -**
Pipe zstd into tar

DICTIONARIES AND PATCHES

zstd --train *<files>* **-o** *<dict>*
Build a dictionary from samples

zstd -D *<dict>* *<file>*
Compress with a dictionary

zstd -D *<dict>* **-d** *<file>***.zst**
Decompress with the same dictionary