NAME

zstream - manipulate ZFS send streams

SYNOPSIS

zstream dump [**-Cvd**] [*file*]
zstream decompress [**-v**] [*object*,*offset*[,*type*...]]
zstream redup [**-v**] *file*
zstream token *resume_token*
zstream recompress [**-l** *level*] *algorithm*

DESCRIPTION

The **zstream** utility manipulates ZFS send streams output by the **zfs send** command.

zstream dump [**-Cvd**] [*file*]

Print information about the specified send stream, including headers and record counts. The send stream may either be in the specified *file*, or provided on standard input.

-C Suppress the validation of checksums.

-v Verbose. Print metadata for each record.

-d Dump data contained in each record. Implies verbose.

The **zstreamdump** alias is provided for compatibility and is equivalent to running **zstream dump**.

zstream token *resume_token*

Dumps zfs resume token information

zstream decompress [**-v**] [*object*,*offset*[,*type*...]]

Decompress selected records in a ZFS send stream provided on standard input, when the compression type recorded in ZFS metadata may be incorrect. Specify the object number and byte offset of each record that you wish to decompress. Optionally specify the compression type. Valid compression types include **off**, **gzip**, **lz4**, **lzjb**, **zstd**, and **zle**. The default is **lz4**. Every record for that object beginning at that offset will be decompressed, if possible. It may not be possible, because the record may be corrupted in some but not all of the stream’s snapshots. Specifying a compression type of **off** will change the stream’s metadata accordingly, without attempting decompression. This can be useful if the record is already uncompressed but the metadata insists otherwise. The repaired stream will be written to standard output.

-v Verbose. Print summary of decompressed records.

zstream redup [**-v**] *file*

Deduplicated send streams can be generated by using the **zfs send -D** command. The ability to send deduplicated send streams is deprecated. In the future, the ability to receive a deduplicated send stream with **zfs receive** will be removed. However, deduplicated send streams can still be received by utilizing **zstream redup**.

The **zstream redup** command is provided a *file* containing a deduplicated send stream, and outputs an equivalent non-deduplicated send stream on standard output. Therefore, a deduplicated send stream can be received by running:

```
# zstream redup DEDUP_STREAM_FILE | zfs receive <?>
```

-v Verbose. Print summary of converted records.

zstream recompress [**-l** *level*] *algorithm*

Recompresses a send stream, provided on standard input, using the provided algorithm and optional level, and writes the modified stream to standard output. All WRITE records in the send stream will be recompressed, unless they fail to result in size reduction compared to being left uncompressed. The provided algorithm can be any valid value to the **compress** property. Note that encrypted send streams cannot be recompressed.

-l *level*

Specifies compression level. Only needed for algorithms where the level is not implied as part of the name of the algorithm (e.g. gzip-3 does not require it, while zstd does, if a non-default level is desired).

EXAMPLES

Heal a dataset that was corrupted due to OpenZFS bug #12762. First, determine which records are corrupt. That cannot be done automatically; it requires information beyond ZFS’s metadata. If object **128** is corrupted at offset **0** and is compressed using **lz4**, then run this command:

```
# zfs send -c <?> | zstream decompress 128,0,lz4 | zfs recv <?>
```

SEE ALSO

zfs(8), zfs-receive(8), zfs-send(8), **https://github.com/openzfs/zfs/issues/12762**