

NAME

strucio — Reading/writing (sets of) structured files

SYNOPSIS

```
#include <strucio.h>
```

```
-l smacq
```

DESCRIPTION

The strucio library provides read or write access to sequences of files. Callback functions can be registered to produce sequences of file names or use, and to handle per-file headers.

```
struct strucio * strucio_init(
```

Return an initialized strucio.

```
void strucio_close(  
    struct strucio *);
```

Close all open files and free the struct strucio.

```
void strucio_register_file(  
    struct strucio *,  
    char * filename);
```

Register a single file to read or write. Other register_file functions are provided below to specify sequences of files to read.

```
void strucio_register_newfile(  
    struct strucio *,  
    strucio_newfile_fn *,  
    void * user);
```

Register a function that is to be called any time a new file is opened. The user pointer will be passed as an argument when the callback is made. The function can read or write file headers as needed. The registered function should return 0 on success and -1 to reject the file.

READING

```
void strucio_set_read_type(  
    struct strucio *,  
    enum file_read_type read_type);
```

Set the read type to COPY, MMAP, or EITHER (default).

```
void * strucio_read(  
    struct strucio *,  
    void * buf,  
    int len);
```

Return a pointer to a buffer containing len bytes of new data. The buf pointer must be large enough to hold

len bytes. The return value, however, may not be buf if the data could be more efficiently provided elsewhere (e.g. memory-mapped I/O). NULL is returned on failure (end of data).

```
void * strucio_read_mmap(  
    struct strucio *,  
    int len);
```

Return a pointer to a buffer containing len bytes of new data. Returns buf on success and NULL on failure (end of data).

```
void * strucio_read_copy(  
    struct strucio *,  
    void * buf,  
    int len);
```

Fill the given buffer with len bytes of new data. Returns buf on success and NULL on failure (end of data).

```
void strucio_register_filelist(  
    struct strucio *,  
    strucio_filelist_fn *,  
    void * user);
```

Register a function that returns new filenames, one per call. The user pointer will be passed as an argument when the callback is made.

```
void strucio_register_filelist_args(  
    struct strucio *,  
    int argc,  
    char ** argv);
```

Register a builtin function that returns new filenames, one per call from the given argument vector.

```
void strucio_register_filelist_stdin(  
    struct strucio *);
```

Register a builtin function that returns new filenames, one per call from standard input.

WRITING

```
int strucio_write(  
    struct strucio *,  
    void * buf,  
    int len);
```

Write-out the given buffer. Returns 0 on success.

```
void strucio_set_rotate(  
    struct strucio *,  
    long long size);
```

Set an upper-bound on the size of output files. Files will be created with numerical, increasing, suffix.

SEE ALSO

bytehash(3), smacq-modules(3)