

Op:dirent.h

dirent.h - format of directory entries

```
#include <dirent.h>
```

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DESCRIPTION

The internal format of directories is unspecified.

The `<dirent.h>` header shall define the following type:

DIR A type representing a directory stream.

It shall also define the structure **dirent** which shall include the following members:

```
ino_t  d_ino      File serial number.
```

```
char  d_name[]   Name of entry.
```

The type **ino_t** shall be defined as described in `<sys/types.h>` .

The character array **d_name** is of unspecified size, but the number of bytes preceding the terminating null byte shall not exceed {NAME_MAX}.

The following shall be declared as functions and may also be defined as macros. Function prototypes shall be provided.

```
int      closedir(DIR *);
```

```

DIR          *opendir(const char *);
struct dirent *readdir(DIR *);

int          readdir_r(DIR *restrict, struct dirent *restrict,
                struct dirent **restrict);

void        rewinddir(DIR *);

void        seekdir(DIR *, long);
long        telldir(DIR *);

```

The following sections are informative.

APPLICATION USAGE

None.

RATIONALE

Information similar to that in the `<dirent.h>` header is contained in a file `<sys/dir.h>` in 4.2 BSD and 4.3 BSD.

The equivalent in these implementations of `struct dirent` from this volume of IEEE Std 1003.1-2001 is `struct direct`. The filename was changed because the name `<sys/dir.h>` was also used in earlier implementations to refer to definitions related to the older access method; this produced name conflicts. The name of the structure was changed because this volume of IEEE Std 1003.1-2001 does not completely define what is in the structure, so it could be different on some implementations from `struct direct`.

The name of an array of `char` of an unspecified size should not be used as an lvalue. Use of:

```
sizeof(d_name)
```

is incorrect; use:

```
strlen(d_name)
```

instead.

The array of `char d_name` is not a fixed size. Implementations may need to declare `struct dirent` with an array size for `d_name` of 1, but the actual number of characters provided matches (or only slightly exceeds) the length of the filename.

FUTURE DIRECTIONS

None.

RELATED

`<sys/types.h>`, the System Interfaces volume of IEEE Std 1003.1-2001, `closedir()`, `opendir()`, `readdir()`, `readdir_r()`, `rewinddir()`, `seekdir()`, `telldir()`

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