

NAME

libunwind-setjmp -- libunwind-based non-local gotos

SYNOPSIS

```
#include <setjmp.h>
```

```
int setjmp(jmp_buf env);  
void longjmp(jmp_buf env, int val);  
int _setjmp(jmp_buf env);  
void _longjmp(jmp_buf env, int val);  
int sigsetjmp(sigjmp_buf env, int savemask);  
void siglongjmp(sigjmp_buf env, int val);
```

DESCRIPTION

The unwind-setjmp library offers a libunwind-based implementation of non-local gotos. This implementation is intended to be a drop-in replacement for the normal, system-provided routines of the same name. The main advantage of using the unwind-setjmp library is that setting up a non-local goto via one of the setjmp() routines is very fast. Typically, just 2 or 3 words need to be saved in the jump-buffer (plus one call to sigprocmask(2), in the case of sigsetjmp). On the other hand, executing a non-local goto by calling one of the longjmp() routines tends to be much slower than with the system-provided routines. In fact, the time spent on a longjmp() will be proportional to the number of call frames that exist between the points where setjmp() and longjmp() were called. For this reason, the unwind-setjmp library is beneficial primarily in applications that frequently call setjmp() but only rarely call longjmp().

CAVEATS

- * The correct operation of this library depends on the presence of correct unwind information. On newer platforms, this is rarely an issue. On older platforms, care needs to be taken to ensure that each of the functions whose stack frames may have to be unwound during a longjmp() have correct unwind information (on those platforms, there is usually a compiler-switch, such as **-funwind-tables**, to request the generation of unwind information).
- * The contents of jmp_buf and sigjmp_buf as setup and used by these routines is completely different from the ones used by the system-provided routines. Thus, a jump-buffer created by the libunwind-based setjmp()/_setjmp may only be used in a call to the libunwind-based longjmp()/_longjmp(). The analogous applies for sigjmp_buf with sigsetjmp() and siglongjmp().

FILES

-lunwind-setjmp

The library an application should be linked against to ensure it uses the libunwind-based non-local

goto routines.

SEE ALSO

libunwind(3), setjmp(3), longjmp(3), _setjmp(3), _longjmp(3), sigsetjmp(3), siglongjmp(3)

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