

NAME

librtld_db - library for run-time linker debugging

LIBRARY

Debugging interface to the runtime linker Library (librtld_db, -lrtl_db)

SYNOPSIS

```
#include <rtld_db.h>
```

void

```
rd_delete(rd_agent_t *rdap);
```

*char **

```
rd_errstr(rd_err_e rderr);
```

rd_err_e

```
rd_event_addr(rd_agent_t *rdap, rd_event_e event, rd_notify_t *notify);
```

rd_err_e

```
rd_event_enable(rd_agent_t *rdap, int onoff);
```

rd_err_e

```
rd_event_getmsg(rd_agent_t *rdap, rd_event_msg_t *msg);
```

rd_err_e

```
rd_init(int version);
```

typedef int

```
rl_iter_f(const rd_loadobj_t *, void *);
```

rd_err_e

```
rd_loadobj_iter(rd_agent_t *rdap, rl_iter_f *cb, void *clnt_data);
```

void

```
rd_log(const int onoff);
```

*rd_agent_t **

```
rd_new(struct proc_handle *php);
```

rd_err_e

```
rd_objpad_enable(rd_agent_t *rdap, size_t padsiz);
```

```
rd_err_e
```

```
rd_plt_resolution(rd_agent_t *rdap, uintptr_t pc, struct proc *proc,  
  uintptr_t plt_base, rd_plt_info_t *rpi);
```

```
rd_err_e
```

```
rd_reset(rd_agent_t *rdap);
```

DESCRIPTION

The **librtld_db** library provides a debugging interface to the run-time linker (rtld). This library must be used along with **libproc(3)**.

Most library functions take a *rd_agent_t* argument. This argument is an opaque structure containing information associated with the current status of the agent.

Before you start using **librtld_db** you should call **rd_init()** with the *RD_VERSION* argument. This initializes the library to the correct version your program was compiled with and provides proper ABI stability.

What follows is a description of what each function.

rd_new() creates a new **librtld_db** agent. The *php* argument should be the *proc_handle* you received from **libproc(3)**.

rd_reset() resets your previously created agent.

rd_delete() deallocates the resources associated with the agent.

rd_errstr() returns an error string describing the error present in *rderr*.

rd_event_enable() enables reporting of events. This function always returns *RD_OK*.

rd_event_addr() returns the event address corresponding to the *event* parameter. At the moment we only report events of type *RD_NOTIFY_BPT*.

rd_event_getmsg() returns the message associated with the latest event. At the moment only *RD_POSTINIT* events are supported.

rd_loadobj_iter() allows you to iterate over the program's loaded objects. *cb* is a callback of type

rl_iter_f().

RETURN VALUES

Most functions return an *rd_err_e* type error. The error codes are described in the header file for this library. You can get the error string using **rd_errstr()**.

SEE ALSO

ld(1), ld-elf.so.1(1), ld.so(1), rtd(1), libproc(3)

HISTORY

The **librtld_db** library first appeared in FreeBSD 9.0 and was modeled after the same library present in the Solaris operating system.

AUTHORS

The **librtld_db** library and this manual page were written by Rui Paulo <rpaulo@FreeBSD.org> under sponsorship from the FreeBSD Foundation.

CAVEATS

The functions **rd_event_enable()**, **rd_log()**, **rd_objpad_enable()** and **rd_plt_resolution()** are not yet implemented.