

NAME

`rtime` – get time from a remote machine

SYNOPSIS

```
#include <rpc/auth_des.h>
```

```
int rtime(struct sockaddr_in *addrp, struct rpc_timeval *timep,
          struct rpc_timeval *timeout);
```

DESCRIPTION

This function uses the Time Server Protocol as described in RFC 868 to obtain the time from a remote machine.

The Time Server Protocol gives the time in seconds since 00:00:00 UTC, 1 Jan 1900, and this function subtracts the appropriate constant in order to convert the result to seconds since the Epoch, 1970-01-01 00:00:00 +0000 (UTC).

When *timeout* is non-NULL, the udp/time socket (port 37) is used. Otherwise, the tcp/time socket (port 37) is used.

RETURN VALUE

On success, 0 is returned, and the obtained 32-bit time value is stored in *timep*→*tv_sec*. In case of error -1 is returned, and *errno* is set appropriately.

ERRORS

All errors for underlying functions (`sendto(2)`, `poll(2)`, `recvfrom(2)`, `connect(2)`, `read(2)`) can occur. Moreover:

EIO The number of returned bytes is not 4.

ETIMEDOUT

The waiting time as defined in *timeout* has expired.

ATTRIBUTES

For an explanation of the terms used in this section, see `attributes(7)`.

Interface	Attribute	Value
<code>rtime()</code>	Thread safety	MT-Safe

NOTES

Only IPv4 is supported.

Some *in.timed* versions support only TCP. Try the example program with *use_tcp* set to 1.

Libc5 uses the prototype

```
int rtime(struct sockaddr_in *, struct timeval *, struct timeval *);
```

and requires `<sys/time.h>` instead of `<rpc/auth_des.h>`.

BUGS

`rtime()` in glibc 2.2.5 and earlier does not work properly on 64-bit machines.

EXAMPLE

This example requires that port 37 is up and open. You may check that the time entry within `/etc/inetd.conf` is not commented out.

The program connects to a computer called "linux". Using "localhost" does not work. The result is the localtime of the computer "linux".

```
#include <stdio.h>
#include <stdlib.h>
#include <errno.h>
#include <string.h>
#include <time.h>
#include <rpc/auth_des.h>
```

```
#include <netdb.h>

static int use_tcp = 0;
static char *servername = "linux";

int
main(void)
{
    struct sockaddr_in name;
    struct rpc_timeval time1 = {0,0};
    struct rpc_timeval timeout = {1,0};
    struct hostent *hent;
    int ret;

    memset(&name, 0, sizeof(name));
    sethostent(1);
    hent = gethostbyname(servername);
    memcpy(&name.sin_addr, hent->h_addr, hent->h_length);

    ret = rtime(&name, &time1, use_tcp ? NULL : &timeout);
    if (ret < 0)
        perror("rtime error");
    else {
        time_t t = time1.tv_sec;
        printf("%s\n", ctime(&t));
    }

    exit(EXIT_SUCCESS);
}
```

SEE ALSO

ntptime(1), inetd(8)

COLOPHON

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