NAME

udplite − Lightweight User Datagram Protocol

SYNOPSIS

#include <sys/socket.h>

sockfd = socket(AF_INET, SOCK_DGRAM, IPPROTO_UDPLITE);

DESCRIPTION

This is an implementation of the Lightweight User Datagram Protocol (UDP-Lite), as described in RFC 3828.

UDP-Lite is an extension of UDP (RFC 768) to support variable-length checksums. This has advantages for some types of multimedia transport that may be able to make use of slightly damaged datagrams, rather than having them discarded by lower-layer protocols.

The variable-length checksum coverage is set via a **setsockopt**(2) option. If this option is not set, the only difference to UDP is in using a different IP protocol identifier (IANA number 136).

The UDP-Lite implementation is a full extension of **udp**(7), i.e., it shares the same API and API behaviour, and in addition offers two socket options to control the checksum coverage.

Address Format

UDP-Litev4 uses the *sockaddr_in* address format described in **ip**(7). UDP-Litev6 uses the *sockaddr_in6* address format described in **ipv6**(7).

Socket Options

To set or get a UDP-Lite socket option, call **getsockopt**(2) to read or **setsockopt**(2) to write the option with the option level argument set to **IPPROTO_UDPLITE**. In addition, all **IPPROTO_UDP** socket options are valid on a UDP-Lite socket. See **udp**(7) for more information.

The following two options are specific to UDP-Lite.

UDPLITE_SEND_CSCOV

This option sets the sender checksum coverage and takes an *int* as argument, with a checksum coverage value in the range 0..2^16-1.

A value of 0 means that the entire datagram is always covered. Values from 1-7 are illegal (RFC 3828, 3.1) and are rounded up to the minimum coverage of 8.

With regard to IPv6 jumbograms (RFC 2675), the UDP-Litev6 checksum coverage is limited to the first 2^16-1 octets, as per RFC 3828, 3.5. Higher values are therefore silently truncated to 2^16-1. If in doubt, the current coverage value can always be queried using **getsockopt**(2).

UDPLITE_RECV_CSCOV

This is the receiver-side analogue and uses the same argument format and value range as **UDPLITE_SEND_CSCOV**. This option is not required to enable traffic with partial checksum coverage. Its function is that of a traffic filter: when enabled, it instructs the kernel to drop all packets which have a coverage *less* than the specified coverage value.

When the value of **UDPLITE_RECV_CSCOV** exceeds the actual packet coverage, incoming packets are silently dropped, but may generate a warning message in the system log.

ERRORS

All errors documented for **udp**(7) may be returned. UDP-Lite does not add further errors.

BUGS

Where glibc support is missing, the following definitions are needed:

```
#define IPPROTO_UDPLITE     136
#define UDPLITE_SEND_CSCOV  10
#define UDPLITE_RECV_CSCOV  11
```

FILES

/proc/net/snmp − basic UDP-Litev4 statistics counters.
/proc/net/snmp6 − basic UDP-Litev6 statistics counters.

VERSIONS

UDP-Litev4/v6 first appeared in Linux 2.6.20.

SEE ALSO

udp(7), **ip**(7), **ipv6**(7), **socket**(7)

RFC 3828 for the Lightweight User Datagram Protocol (UDP-Lite)
Documentation/networking/udplite.txt

COLOPHON

This page is part of release 3.22 of the Linux *man-pages* project. A description of the project, and information about reporting bugs, can be found at http://www.kernel.org/doc/man-pages/.