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          **Describing UDP with Augmented Packet Header Diagrams**

## Abstract

This document describes UDP using Augmented Packet Header Diagrams. This document is an example of the Augmented Packet Header Diagram language: it is not intended as a contribution to any ongoing or future work on maintaining or extending UDP.

## Status of This Memo

This Internet-Draft is submitted in full conformance with the provisions of BCP 78 and BCP 79.

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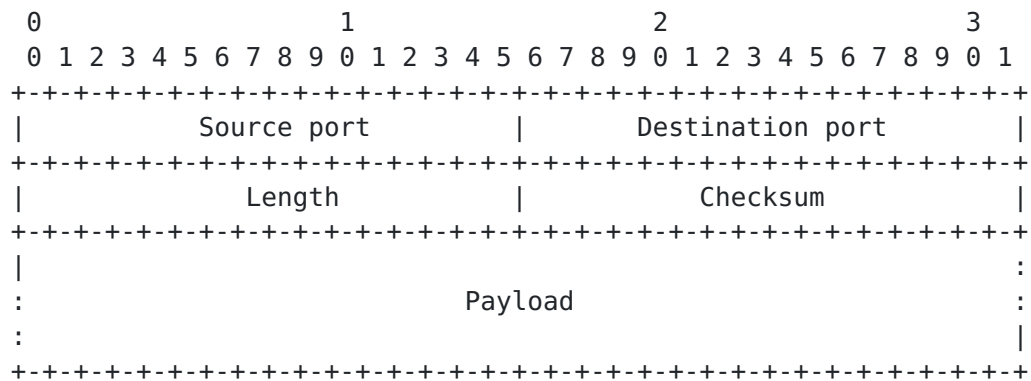
## 1. Introduction

This document uses Augmented Packet Header Diagrams [[AUGMENTED-DIAGRAMS](#)] to describe UDP [[RFC768](#)], and is intended to further discussion about the design and implementation of the Augmented Packet Header Diagram language and tooling. Given this purpose, this document is not intended as a contribution to any ongoing or future work on maintaining or extending UDP. Further, this document does not necessarily reflect UDP, and its extensions, as presently standardised.

## 2. UDP Header

This document describes the UDP protocol. The UDP protocol uses UDP Headers.

A UDP Header is formatted as follows:



where:

**Source port (Src):** 2 bytes. Sending port.

**Destination port (Dest):** 2 bytes. Destination port.

**Length (L):** 2 bytes;  $L \geq 8$ . Length of the header and payload in bytes.

**Checksum: 2 bytes.** Checksum is the 16-bit one's complement of the one's complement sum of a pseudo header of information from the IP

header, the UDP header, and the data, padded with zero octets at the end (if necessary) to make a multiple of two octets.

**Payload: L-8 bytes.** The payload of the UDP datagram, which is the whose size is the value of the Length field, less 8 bytes for the header.

### 3. IANA Considerations

This document contains no actions for IANA.

### 4. Security Considerations

The security implications of the Augmented Packet Header Diagrams format are considered in [[AUGMENTED-DIAGRAMS](#)].

### 5. Acknowledgements

This work has received funding from the UK Engineering and Physical Sciences Research Council under grant EP/R04144X/1.

### 6. Informative References

#### [AUGMENTED-DIAGRAMS]

McQuistin, S., Band, V., Jacob, D., and C. S. Perkins, "Describing Protocol Data Units with Augmented Packet Header Diagrams", Work in Progress, Internet-Draft, draft-mcquistin-augmented-ascii-diagrams-07, 2 November 2020, <<http://www.ietf.org/internet-drafts/draft-mcquistin-augmented-ascii-diagrams-07.txt>>.

[RFC768] Postel, J., "User Datagram Protocol", RFC 768, August 1980, <<https://www.rfc-editor.org/info/rfc768>>.

### Appendix A. Source code repository

The source code for tooling that can be used to parse this document, and generate parser code for the protocol it describes, is available from <https://github.com/glasgow-ipl/ips-protodesc-code>.

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