

Internet Checksum

Traditionally, the Internet has been using a 16-bit checksum. The sender calculates the checksum by following these steps.

Sender site:

1. The message is divided into 16-bit words.
 2. The value of the checksum word is set to 0.
 3. All words including the checksum are added **using** one's complement addition.
 4. The sum is complemented and becomes the checksum.
 5. The checksum is sent with the data.
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The receiver uses the following steps for error detection.

Receiver site:

1. The message (including checksum) is divided into 16-bit words.
 2. All words are added using one's complement addition.
 3. The sum is complemented and becomes the new checksum.
 4. If the value of checksum is 0, the message is accepted; otherwise, it is rejected.
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