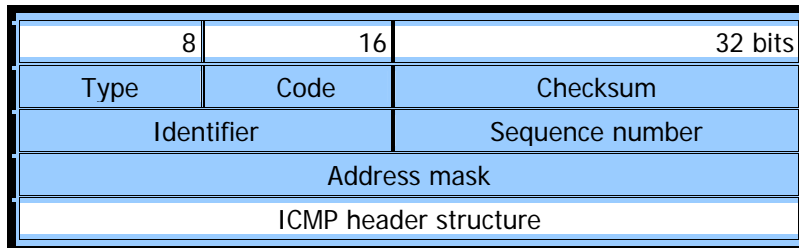


ICMP Protocol

IETF **RFC792** defines the Internet Control Message Protocol (ICMP). ICMP messages generally contain information about routing difficulties with IP datagrams or simple exchanges such as time-stamp or echo transactions.

The ICMP header structure is shown as follows:



Type	Code	Description
0		Echo reply.
3		Destination unreachable.
3	0	Net unreachable.
3	1	Host unreachable.
3	2	Protocol unreachable.
3	3	Port unreachable.
3	4	Fragmentation needed and DF set.
3	5	Source route failed.
4		Source quench.
5		Redirect.
5	0	Redirect datagrams for the network.
5	1	Redirect datagrams for the host.
5	2	Redirect datagrams for the type of service and network.
5	3	Redirect datagrams for the type of service and host.
8		Echo.
11		Time exceeded.
11	0	Time to live exceeded in transit.
11	1	Fragment reassemble time exceeded.
12		Parameter problem.
13		Timestamp.
14		Timestamp reply.
15		Information request.
16		Information reply.

Checksum

The 16-bit one's complement of the one's complement sum of the ICMP message starting with the ICMP Type. For computing the checksum, the checksum field should be zero.

Identifier

An identifier to aid in matching requests/replies; may be zero.

Sequence number

Sequence number to aid in matching requests/replies; may be zero.

Address mask

A 32-bit mask