

ICMP TYPE NUMBERS

(last updated 2009-07-17)

Registries included below:

- ICMP Type Numbers
- Code Fields
- ICMP Extension Objects Classes

Registry Name: ICMP Type Numbers

Reference: [RFC2939]

Registration Procedures: IESG Approval or Standards Action

Note:

The Internet Control Message Protocol (ICMP) has many messages that are identified by a "type" field.

Registry:

Type	Name	Reference
0	Echo Reply	[RFC792]
1	Unassigned	[JBP]
2	Unassigned	[JBP]
3	Destination Unreachable	[RFC792]
4	Source Quench	[RFC792]
5	Redirect	[RFC792]
6	Alternate Host Address	[JBP]
7	Unassigned	[JBP]
8	Echo	[RFC792]
9	Router Advertisement	[RFC1256]
10	Router Solicitation	[RFC1256]
11	Time Exceeded	[RFC792]
12	Parameter Problem	[RFC792]
13	Timestamp	[RFC792]
14	Timestamp Reply	[RFC792]
15	Information Request	[RFC792]
16	Information Reply	[RFC792]
17	Address Mask Request	[RFC950]
18	Address Mask Reply	[RFC950]
19	Reserved (for Security)	[Solo]
20-29	Reserved (for Robustness Experiment)	[ZSu]
30	Traceroute	[RFC1393]
31	Datagram Conversion Error	[RFC1475]
32	Mobile Host Redirect	[David Johnson]
33	IPv6 Where-Are-You	[Bill Simpson]
34	IPv6 I-Am-Here	[Bill Simpson]
35	Mobile Registration Request	[Bill Simpson]
36	Mobile Registration Reply	[Bill Simpson]
37	Domain Name Request	[RFC1788]
38	Domain Name Reply	[RFC1788]
39	SKIP	[Markson]
40	Photuris	[RFC2521]
41	ICMP messages utilized by experimental mobility protocols such as Seamoby	[RFC4065]
42-255	Reserved	[JBP]

Registry Name: Code Fields

Reference: [RFC2939]

Registration Procedures: IESG Approval or Standards Action

Note:

Many of these ICMP types have a "code" field. Here we list the types again with their assigned code fields.

Registry:

Type	Name	Reference
0	Echo Reply	[RFC792]
	Codes	
	0 No Code	
1	Unassigned	[JBP]
2	Unassigned	[JBP]
3	Destination Unreachable	[RFC792]
	Codes	
	0 Net Unreachable	[RFC792]
	1 Host Unreachable	[RFC792]
	2 Protocol Unreachable	[RFC792]
	3 Port Unreachable	[RFC792]
	4 Fragmentation Needed and Don't Fragment was Set	[RFC792]
	5 Source Route Failed	[RFC792]
	6 Destination Network Unknown	[RFC1122]
	7 Destination Host Unknown	[RFC1122]
	8 Source Host Isolated	[RFC1122]
	9 Communication with Destination Network is Administratively Prohibited	[RFC1122]
	10 Communication with Destination Host is Administratively Prohibited	[RFC1122]
	11 Destination Network Unreachable for Type of Service	[RFC1122]
	12 Destination Host Unreachable for Type of Service	[RFC1122]
	13 Communication Administratively Prohibited	[RFC1812]
	14 Host Precedence Violation	[RFC1812]
	15 Precedence cutoff in effect	[RFC1812]
4	Source Quench	[RFC792]
	Codes	
	0 No Code	
5	Redirect	[RFC792]
	Codes	
	0 Redirect Datagram for the Network (or subnet)	
	1 Redirect Datagram for the Host	
	2 Redirect Datagram for the Type of Service and Network	
	3 Redirect Datagram for the Type of Service and Host	
6	Alternate Host Address	[JBP]
	Codes	
	0 Alternate Address for Host	
7	Unassigned	[JBP]
8	Echo	[RFC792]
	Codes	

0	No Code	
9	Router Advertisement	[RFC1256]
	Codes	
0	Normal router advertisement	[RFC3344]
16	Does not route common traffic	[RFC3344]
10	Router Selection	[RFC1256]
	Codes	
0	No Code	
11	Time Exceeded	[RFC792]
	Codes	
0	Time to Live exceeded in Transit	
1	Fragment Reassembly Time Exceeded	
12	Parameter Problem	[RFC792]
	Codes	
0	Pointer indicates the error	
1	Missing a Required Option	[RFC1108]
2	Bad Length	
13	Timestamp	[RFC792]
	Codes	
0	No Code	
14	Timestamp Reply	[RFC792]
	Codes	
0	No Code	
15	Information Request	[RFC792]
	Codes	
0	No Code	
16	Information Reply	[RFC792]
	Codes	
0	No Code	
17	Address Mask Request	[RFC950]
	Codes	
0	No Code	
18	Address Mask Reply	[RFC950]
	Codes	
0	No Code	
19	Reserved (for Security)	[Solo]
20-29	Reserved (for Robustness Experiment)	[ZSu]
30	Traceroute	[RFC1393]
31	Datagram Conversion Error	[RFC1475]

32	Mobile Host Redirect	[David Johnson]
33	IPv6 Where-Are-You	[Bill Simpson]
34	IPv6 I-Am-Here	[Bill Simpson]
35	Mobile Registration Request	[Bill Simpson]
36	Mobile Registration Reply	[Bill Simpson]
39	SKIP	[Markson]
40	Photuris	[RFC2521]

Codes

0 = Bad SPI
 1 = Authentication Failed
 2 = Decompression Failed
 3 = Decryption Failed
 4 = Need Authentication
 5 = Need Authorization

41-252 Unassigned

253	RFC3692-style Experiment 1 (*)	[RFC4727]
254	RFC3692-style Experiment 2 (*)	[RFC4727]

(*) It is only appropriate to use these values in explicitly-configured experiments; they MUST NOT be shipped as defaults in implementations. See RFC 3692 for details.

ICMP Extension Objects Classes and Class Sub-types - per [RFC4884]
 Registration Procedures:
 0-246 First Come First Serve
 247-255 Private Use

Object

Class

Value	Class Name	Reference
1	MPLS Label Stack Class	[RFC4950]

Sub-types [RFC4950]

C-Type		
0	Reserved	[RFC4950]
1	Incoming MPLS Label Stack	[RFC4950]
0x02-0xF6	Available for assignment	[RFC4950]
0xF7-0xFF	Reserved for private use	[RFC4950]

Allocation Policy: C-Type values for Class-num 1 are assignable on a first-come-first-serve (FCFS) basis [RFC2434].

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