ICMP Types and Codes

Jon Postel's original paper on ICMP, RFC 792.

Other RFCs referenced in this table can be accessed by visiting the RFC Index.

ICMP TYPE NUMBERS

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

|  |  |  |
| --- | --- | --- |
| 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 Selection | [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 | [Simpson] |
| 38 | Domain Name Reply | [Simpson] |
| 39 | SKIP | [Markson] |
| 40 | Photuris | [Simpson] |
| 41-255 | Reserved | [JBP] |

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

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| **Type 0 Echo Reply Codes [RFC792]** | |
| 0 | No Code |

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| **Type 1 Unassigned [JBP]** |

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| **Type 2 Unassigned [JBP]** |

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| **Type 3 Destination Unreachable Codes [RFC792]** | |
| 0 | Net Unreachable |
| 1 | Host Unreachable |
| 2 | Protocol Unreachable |
| 3 | Port Unreachable |
| 4 | Fragmentation Needed and Don't Fragment was Set |
| 5 | Source Route Failed |
| 6 | Destination Network Unknown |
| 7 | Destination Host Unknown |
| 8 | Source Host Isolated |
| 9 | Communication with Destination Network is Administratively Prohibited |
| 10 | Communication with Destination Host is Administratively Prohibited |
| 11 | Destination Network Unreachable for Type of Service |
| 12 | Destination Host Unreachable for Type of Service |
| 13 | Communication Administratively Prohibited [RFC1812] |
| 14 | Host Precedence Violation [RFC1812] |
| 15 | Precedence cutoff in effect [RFC1812] |

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| **Type 4 Source Quench Codes [RFC792** | |
| 0 | No Code |

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| **Type 5 Redirect Codes [RFC792]** | |
| 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 Network |

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| **Type 6 Alternate Host Address JBP]** | |
| 0 | Alternate Address for Host |

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| **Type 7 Unassigned [JBP]** |

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| **Type 8 Echo Codes [RFC792** | |
| 0 | No Code |

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| **Type 9 Router Advertisement [RFC1256]** | |
| 0 | No Code |

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| **Type 9 10 Router Selection [RFC1256]** | |
| 0 | No Code |

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| **Type 11 Time Exceeded [RFC792]** | |
| 0 | Time to Live exceeded in Transit |
| 1 | Fragment Reassembly Time Exceeded |

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| **Type 12 Parameter Problem [RFC792]** | |
| 0 | Pointer indicates the error |
| 1 | Missing a Required Option [RFC1108 |
| 2 | Bad Length |

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| **Type 13 Timestamp [RFC792]** | |
| 0 | No Code |

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| --- | --- |
| **Type 14 Timestamp Reply [RFC792]** | |
| 0 | No Code |

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| --- | --- |
| **Type 15 Information Request [RFC792]** | |
| 0 | No Code |

|  |  |
| --- | --- |
| **Type 16 Information Reply [RFC792]** | |
| 0 | No Code |

|  |  |
| --- | --- |
| **Type 17 Address Mask Request [RFC950]** | |
| 0 | No Code |

|  |  |
| --- | --- |
| **Type 13 18 Address Mask Reply [RFC950]** | |
| 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] |
| 37 | Domain Name Request | [Simpson] |
| 38 | Domain Name Reply | [Simpson] |
| 39 | SKIP | [Markson] |

|  |  |
| --- | --- |
| **Type 40 Photuris Codes [Simpson]** | |
| 0 | Reserved |
| 1 | unknown security parameters index |
| 2 | valid security parameters, but authentication failed |
| 3 | valid security parameters, but decryption failed |