Special Purpose IP Address Registries

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RFC 6890

- In order to support new protocols and practices, the IETF occasionally reserves an address block for a special purpose
  - RFC1122 reserves an IPv4 address block (0.0.0.0/8) to represent the local (i.e., "this") network
  - RFC4291 reserves an IPv6 address block (fe80::/10) to represent link-scoped unicast addresses
- RFC 6890 describes the current list of all special-purpose address blocks
  - Several issues have been raised with how "global" is defined in that document
  - The definition of global provided in RFC6890 focuses on the prefix's ability to be routed globally within the Internet and does not indicate if the prefix is globally scoped (i.e., may be routed beyond the local link; described as "global unicast" in the IPv6 addressing architecture RFC4291)

This Document

- Reiterates the assignments made to the IPv4 and IPv6 Special-Purpose Address Registries
  - Augments the fields contained within the registries in order to address the confusion raised by the definition of "global"
- Defines a common set of information that the registries will maintain regarding each special-purpose address block
- Defines a common set of requirements for future entries

Information Requirements

- Address Block - A block of IPv4 or IPv6 addresses that has been registered for a special purpose

- Name - A descriptive name for the special-purpose address block

- RFC - The RFC through which the special-purpose address block was requested

- Allocation Date - The date upon which the special-purpose address block was allocated

- Termination Date - The date upon which the allocation is to be terminated. This field is applicable for limited-use allocations only

- Source - A boolean value indicating whether an address from the allocated special-purpose address block is valid when used as the source address of an IP datagram that transits two devices.

- Destination - A boolean value indicating whether an address from the allocated special-purpose address block is valid when used as the destination address of an IP datagram that transits two devices.

Information Requirements (continued)

- Forwardable - A boolean value indicating whether a router may forward an IP datagram whose destination address is drawn from the allocated special-purpose address block between external interfaces.

- *Globally Reachable - A boolean value indicating whether an IP datagram whose destination address is drawn from the allocated special-purpose address block is forwardable beyond a specified administrative domain.*

- Reserved-by-Protocol - A boolean value indicating whether the special-purpose address block is reserved by IP, itself. This value is "TRUE" if the RFC that created the special-purpose address block requires all compliant IP implementations to behave in a special way when processing packets either to or from addresses contained by the address block.

Sample Entry

Attribute	Value
Address Block	0.0.0.0/8
Name	"This host on this network"
RFC	[RFC1122], Section 3.2.1.3
Allocation Date	September 1981
Termination Date	N/A
Source	True
Destination	False
Forwardable	False
Globally Reachable	False
Reserved-by-Protocol	True

Next Steps

- Adopt as WG item
- WG last call