SIPP ADDRESSING ARCHITECTURE

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OVERVIEW

- Changes from Previous Version
- Text Representations of Addresses
- Address Type Representations
- Unicast Addresses
- Multicast Addresses

CHANGES FROM PREVIOUS VERSION

- C-bit Removed
- Extended Addresses removed
- Source Route reversal rules moved to main SIPP specification
- Address Types defined
- Text for Binding of Addresses to Specific Interfaces removed

TEXT REPRESENTION OF ADDRESSES

- Basic Format
  FEDC:BA98:7654:3210:FEDC:BA98:7654:3210
  1080:0:0:800:200C:417A
- Compressed Format
  FF01:0:0:0:0:0:0:43
  as
  FF01::43
- IPv4 Format
  0:0:0:0:0:0:0:13.1.68.3
  0:0:0:0:0:0:1:129.144.52.38
  ::13.1.68.3
  ::1.129.144.52.38

ADDRESS TYPES

Allocation	Prefix (binary)	Fraction
Reserved	00	1/4
Provider-Based Unicast	01	1/4
Rsvd for Geographic	10	1/4
Reserved	110	1/8
NSAP Allocation	1110 00	1/64
Reserved	1110 01	1/64
Reserved	1110 10	1/64
IPX Allocation	1110 11	1/64
Reserved	1111 0	1/32
Reserved	1111 10	1/64
Reserved	1111 110	1/128
Local Use Addresses	1111 1110	1/256
Multicast Addresses	1111 1111	1/256

UNICAST ADDRESSES

- Global Provider Hierarchical Addresses
- Geographical Hierarchical Addresses
- NSAP Addresses
- IPX Addresses
- Cluster Addresses
- Local Use Addresses
- IP-Only Addresses

UNICAST EXAMPLES

- **Auto-Configuration Example**

n	m	48
Subscriber Prefix	Subnet	Node ID

- **PPP Links**

n	126-n	2
Subscriber Prefix	Subnet ID	Node ID

GLOBAL PROVIDER ADDRESSES

2	n	m	p	126-n-m-p
01	Provider ID	Subscriber ID	Subnet ID	Node ID

NSAP ADDRESSES

Brian Carpenter is working on this

IPX ADDRESSES

We Need to Do This

LOCAL-USE ADDRESSES

8	n	m	120-n-m
11111110	000...000	Subnet ID	Node ID

CLUSTER ADDRESSES

n	128- n
Cluster Prefix	00000000000000000000

LOOP BACK ADDRESS

FE00:0:0:0:0:0:0:1

UNSPECIFIED ADDRESSES

0:0:0:0:0:0:0:0

IP-ONLY NODES

IPv4 Only

96	32
000..000	IPv4 Address

IPv4 Compatible SIPP Address

96	32
000..001	IPv4 Address

MULTICAST ADDRESSES

8	4	4	112
11111111	flgs	scop	Group ID

1111 1111	Identifies Multicast Address
flgs	0 0 0 T
	First 3 bits reserved
	T=0 Permanent
	T=1 Non-Permanent
scop	Defines scope of Multicast

IPng Mail List

Mailing List:

ip-ng@sunroof.eng.sun.com

To join send an email message to:

majordomo@sunroof.eng.sun.com

with

subscribe ipng

in the text of the message.