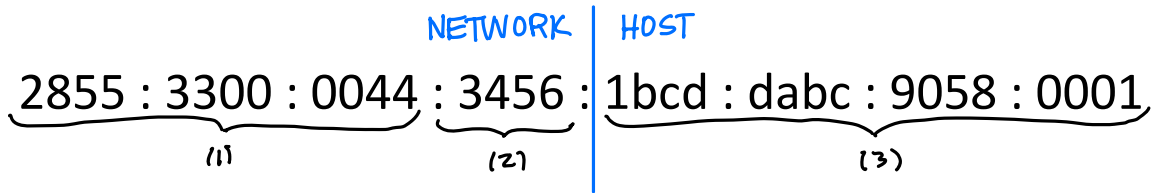


IPv6 Addressing

BAIS:3400 – Cloud Computing



- 1.) What part of the address is assigned by the RIR and identifies the company?

see diagram above.

- 2.) What part of the address is assigned by the company and identifies the subnet (Site Level Aggregator (SLA))?

see diagram above.

- 3.) What part of the address identifies the host (interface)?

see diagram above.

- 4.) How many bits are in an IPv6 address?

8 positions \times 4 hex \times 4 bits = 128 vs. 32-bit IPv4

- 5.) How many /64 subnets are available in a /48 prefix?

$2^{16 \text{ bits}} = 65536$

- 7.) How many available IPv6 host addresses are there in a /64 allocation?

$2^{64 \text{ bits}} = 18,446,744,073,709,551,616$

- 8.) What is the IPv6 default route address similar to 0.0.0.0 in IPv4?

::/0 is equivalent to 0.0.0.0

- 9.) What is the IPv6 loopback address similar to 127.0.0.1 in IPv4?

::1/128 is equivalent to 127.0.0.1

- 10.) What is most truncated form of IPv6 address 2001 : 1000 : 0000 : 0000: 0003 : 0000 : 0000 : 0000

2001:1000:0:0:3::

- 11.) What is the long form of the address 2620 : 0 : e50 ::?

2620:0000:0e50:0000:0000:0000

- 12.) What is the difference between stateful and stateless configuration?

STATEFUL Server assigns network address to host

STATELESS Host configures its own address