Do IPv4 Addresses have a Value?

IETF PIARA BOF June 1996

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YES !

Well then -

give me a dollar value for an address!

No - I Won't !

An Address Value is variable

$$Value = ((V_{uniqueness} + V_{routeability} + V_{contiguous\ size}) * U_{utility\ factor}) - C_{cost\ of\ addresses}$$

- Each participant's estimation of the value factor will vary
- Therefore the 'value' will vary according to the buyer and seller

But ...

I still want to know how much they are worth!

- Then find a buyer
  - The market approach indicates that market value is established by selling addresses
  - If the buyer's offer is less than your calculation of V then you won't sell.
  - The if buyer's offer is greater than the buyer's current calculation of V then the buyer is undertaking future price speculation

So if I can sell addresses, maybe I should hoard them instead?

In a finite resource market with escalating demand the market price starts to exhibit a scarcity premium, where the scarcity premium is related to the level of demand over supply

Hoarding and speculative buying can be used to establish a monopoly position and thereby exert complete control over supply and price

- De Beers is an excellent example of this market trading practice in the diamond wholesale market

So ...
Lets speculate and buy up the address pool

- But this is not a monopoly market of finite goods
- Application gateways and address translation technologies can be deployed to provide desired functionality in many many cases

But gateway technologies cost money too

- correct

$C = C_{\text{cost of deployment}}$

$\text{Value} = V_{\text{routeability}} + V_{\text{security}} + V_{\text{portability}} - R_{\text{reduced functionality}} - C_{\text{with depreciated capital component}}$

- So a non-speculative buyer will never offer more than V for IPv4 addresses
- There is now an established upper bound on a scarcity price premium so a monopoly of supply of resource essential to functionality cannot be secured.

Are there any other upper bounds?

- IPv6
- Similar cost and value calculation can be undertaken
- As V6 develops the cost will come down and the value will increase

So Whats the Value of an IPv4 Address ?

- Whatever the market will bear
- But people tell me that addresses are free
  - True - the registries give away new IPv4 addresses

What about address registries?

- The registries limit trading due to:
  - dumping free IPv4 addresses on the market from the unallocated IPv4 address pool
  - polices which deny a traded address access to the registry
- These policies
  - reduce the production value of alternative technologies through artificial price fixing of the IPv4 address, inhibiting their deployment
  - cannot endure as the unallocated address pool shrinks

What will happen ….

- IPv4 addresses will be traded as a market commodity sooner or later
  - either in a chaotic fashion or
  - within the constraints of a fair and open market
- Also:
  - Alternative translation technologies will have a wider market and increase production
  - IPv6 will have adopters moving beyond experimentation