

Where Theory meets Practice
- Learning from the Lessons
of Operational Deployment

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Mobility

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- The IETF spent more years devising a mobile IPv6 protocol
- More than 80% of the Internet's user base are connected via mobile networks
- Not one of them uses Mobile IPv4 or Mobile IPv6!
- Why not?

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- Why not?
 - It was just too complicated!
 - And the mobile industry already had a functional circuit switched model that met their business needs, including inter-provider settlement
 - And it was clearly more expensive, more fragile and provided additional features that no operator wanted

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- Why not?
 - <too many reasons to enumerate here>
 - But the fact that 11 years after the initial deployment trigger 60% of the Internet 5B user base has no IPv6, but 100% of the user base can do IPv4 is an interesting observation
 - We don't need global addressing any more – we just need global naming

What's going on?

- Deploying a new technology is challenging
- There needs to be outstandingly clear benefits to early adopters
- If universal adoption is necessary then this requires massive revolutionary change which is disruptive to all
- Displacement of other activities / technologies also helps
- But above all **it has to be cheaper than what it replaces**
 - 100x cheaper
 - Or more!

What can we say about Name Based Networking?

- What's the problem it "solves"?
- What's the differential economic benefit of this "solution"?
- Do today's incumbents feel the pressure?
- Are early NBN adopters a threat?
- Do mass market consumers really want decentralised services to the extent that are willing to pay?

- If the objective is mainstream adoption then it's not looking good is it!

But what do we have today?

- I enter the name of a resource (search engine, or hyperlink) into an app
 - The app maps the name to a DNS name
 - The DNS translates that name into an address
 - The routing system maps that address into a service point
 - I get a service response
- The IP address is just a contextual token – its NOT the service
- So **humans transact in names** and **packets route by numbers**
- What is the incremental benefit in having packets route by names?