IPv6 Transition
Dr Vision (Hallucination?)
Dr Tunnel and
Dr NAT

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Why Has the Transition to IPv6 Been Soooo Slow?

Is it the Vendors?

Is it Lazy Operators, as the IPv6 Idealists Complain?

Is it Lack of Content?

Is it That Applications do not Support IPv6?

Is it CPE?

Is it the End User Host Stack?

Is it a Lack of Transition Mechanisms?

A Little Bit of All of Those

But There is One Much Larger Problem

IPv6 is On the Wire INCOMPATIBLE with IPv4

It's Not Transition, It's a Leap!

How Did This Happen?

Arrogance & Operational Cluelessness in the IETF

IPv6 is Incompatible With IPv4 and There Was No Transition Plan!

But it is Too Late
We Have No Alternative

We are
Out of IPv4 Space

The IPv4 Internet Was a Simple Place Where Packets Flowed Freely Between Us

But We Can Easily Destroy the Environment in the Next Year or Two


128 bits
CGN
32 bits

There is Only One Problem With CGNs

We are the Salmon

When They Say "Service Continuity" What They Mean is They are NOT Transitioning to IPv6

And They are Not Going to Remove the Grand Coulee Dam

And Carriers are Not Going to Remove the Multi-Million Dollar NATs

End to End and the Principle of the Stupid Core and Smart Edge

Smart Edge & Stupid Core

- Traditional Voice has stupid edge devices, phone instruments, and a very smart expensive core
- The Internet has a smart edge, computers with operating systems, applications, …, and a simple stupid core, which just does packet forwarding
- Adding an entirely new Internet service is just a matter of distributing an application to a few consenting desktops (until NATs)
- Compare that to adding a service to Voice

Think About a World Where You Can Not Deploy New Protocols (e.g. Skype) Without AT&T's Lawyers' Approval

But On-the-Wire Incompatibility of IPv4 and IPv6, Transition Leaves No Choice but Translation and/or Encapsulation

Focus on Mechanisms Which are Actual Progress Toward IPv6

Prefer Mechanisms Which are Simple, Stateless, …

Use Mechanisms Which Preserve e2e and the Other Basic Principles as Much as Possible

And Now, Dr Tunnel

The Salmon are Swimming Happily Under the Water