

IPv6 Transition

Dr Vision (Hallucination?)

Dr Tunnel and

Dr NAT

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Why Has the
Transition
to IPv6
Been Sooooo Slow?

Is it the Vendors?

Is it
Lazy Operators
(as the IPv6 Idealists
Complain)?

Is it Lack of
Content?

Is it
CPE?

Is it the
End User Host Stack?

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



32 bits

CGN

128 bits

There is
Only One
Problem
With CGNs

We are the Salmon



When They Say
"Service Continuity"
What They Mean is
We 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 e_{2e} and the
Other Basic Principles
as Much as Possible

And Now, Dr Tunnel

