Open routers?

- A real nasty example from last Thursday
  - Why are there two 40Gbps NPUs and several application NPUs?
  - Why can I not run my code in those application processors?
Why not?

• Why are there two 40Gbps NPUs and several application NPUs?
  • Product Group A own the fabric NPUs
  • Product Group B have to deliver an application blade
  • A does not trust B nor will they tie their release cycles together
  • If they don’t trust each other they won’t trust any customers

• Why can I not run my code in those application processors?
  • Application platform (OS/App NPU/driver) is only tested with equipment provider’s applications
  • Customers will break the system without extensive platform testing ala Microsoft, RH, Intel, AMD, VMware etc
But this is a “cut and shut”

Interface designed for a line card

Proprietary NPUs

40Gb/s Fabric

Multi MAC/PHY or POS Framers or whatever
So why not application on a stick?

Why is this not a std “open platform” which is independently implemented and tested?
So where’s the problem?

Interface for tx/rx and includes proprietary platform control functions

This interface lost control
What’s the problem

- There’s a proprietary control interface not exposed outside the box

- Simply put it is the interface between:
  - Routing and forwarding
  - Spanning tree and bridging
  - Flow decisions and flow routing
  - “Control plane and data plane”

- We’ve seen this before:
  - Failed start ups include: Ipsilon, Cplane
  - IXA; Not sufficiently generic? Not a protocol?
A great man speaks

- Paraphrasing:

  “We failed to define the interface between routing and forwarding in the Internet and we’ve been living with the consequences ever since.”

  Dave Clarke

- Go fix it with a research programme, let's not sacrifice any more startups