



Routing integrity and BoD

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Routing integrity and BoD

Dream of interdomain Bandwidth on Demand:
many connections to arbitrary locations in Europe

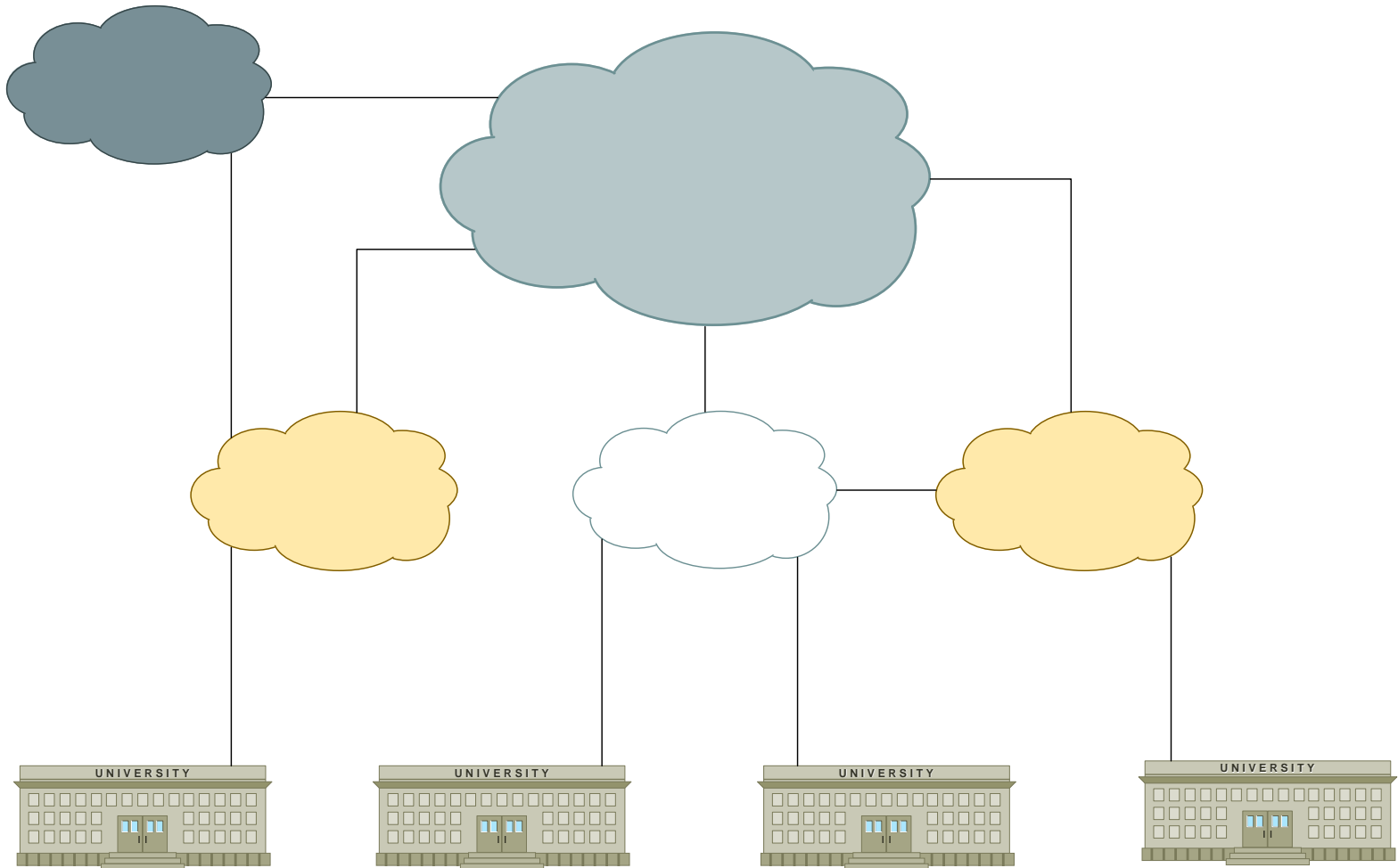
GN2-JRA3 is working toward this

When the service is delivered, how does the user
hook it up?

A perspective on campus networking

- Routing policy consist of
 - list of IP prefixes assigned
 - info on how those prefixes are routed
- Some hierarchy is assumed
 - RIR gives addresses to LIR, LIR to customer
- Network is built around that hierarchy

Hierarchy is assumed



A perspective on campus networking

- We now propose to create arbitrary connections
 - Between NRENs, that's fine
 - Between institutions
 - Between users inside institutions
- These networks are not built with complex routing policies in mind

Obvious solution #1

- Get an AS number and PI space
 - Doesn't fit with the on-demand idea
 - Requires complex IP and BGP expertise
 - Doesn't exist for IPv6 (at the moment anyway, interesting implications from RIPE meetings)
 - Everyone hates renumbering

Obvious solution #2

- Use RFC1918 space
 - Networks might not be fully connected
 - Removes any hope of connecting directly to rest of the internet
 - Everyone hates renumbering

Obvious solution #3

- Use existing numbers and hope it works
 - May bridge campus networks, and all the security hilarity that that entails
 - Difficult to manage, traffic could go the "wrong" way and be blocked or cause trouble
 - Breaks conditions for IP allocation, so there may be unexpected side effects

To try to reach a common solution...

- Is this really how we expect BoD to be used?
 - or is it ok to expect that some routing complexity will have to be dealt with
- Are there any other solutions that work in specific cases?