

Zayo comments on draft BEREC IP Interconnection report

Greetings BEREC team, hope you're having a good summer.

We appreciate the ability to comment on the report, as well as the deadline extension during the Olympics & the summer holiday period.

Zayo Europe is in agreement with the BEREC findings on the IP interconnection ecosystem. We particularly appreciate the strong emphasis on the fact that traffic flowing directly between CDN caches hosted within IAS providers' networks & their subscribers ("walled gardens") is now a roughly equal part (~1/3rd) of the interconnection ecosystem (alongside peering & transit).

As we have a strong French business & network presence we are pleased to see ARCEP data & studies being used as flagship examples of interconnection ecosystem reporting & regulatory measurement. We actively participate in their surveys & welcome further collaboration with them on future reports. We also hope that brexit will have little effect on BEREC's relationship with OFCOM, as we find them to be a good regulator to work with as well.

The emphasis on the EU Open Internet Regulation & how it impacts potential regulatory action in the IP Interconnection ecosystem is quite prescient. Though we are not bound by it as Zayo Europe is not an IAS provider, we nonetheless emphasize compliance with the regulation in spirit & in our internal policies.

It should be noted that in addition to traffic growth & equipment cost per bit/cost per port, a few additional factors drive equipment & interconnection upgrades:

- equipment obsolescence
- equipment power consumption per bit
- reduction of datacenter crossconnect OpEx & conduit space

For clarity, this means we will actively upgrade peering & interconnection links even if traffic levels do not justify it, because:

- the old equipment is no longer supported by the vendor
- the new equipment consumes significantly less power per bit (& doesn't handle the old link technology well)
- we can replace several datacenter crossconnects required for e.g. an old Nx10GE peer with a single crossconnect for a 100GE link
 - as inexpensive 400GE peering router ports & optics are becoming available, we'll be looking into this for our larger Nx100GE peers as well
- (& it provides lots of extra headroom to alleviate burden on our capacity management team & soak up DDoS attack traffic)

For the next report cycle, it would be appreciated if some statistics on IPv6 interconnection could be added, e.g.

- comparison with IPv4 connectivity
- aforementioned CDN cache deployment within IAS "walled gardens" accelerating IPv6 traffic share
- differences in interconnection policies vs. IPv4
- commentary on fragmentation, & in particular the creation of an IPv6 "splinternet" due to Cogent's ongoing refusal to enable IPv6 peering with Hurricane Electric & Google would be appreciated.

Just a few brief editing suggestions to the draft:

- in the footnotes on p.32: "costs while simultaneously assuring an" is repeated
- as per IETF & ISOC style guidelines, at Zayo we prefer to use capital I Internet as a noun & lower-case as an adjective: https://en.wikipedia.org/wiki/Capitalization_of_Internet It helps emphasize the fact that there is only one Internet, & if we collectively render it a closed network there will not be another chance to build another open global packet network to replace it.

Thanks very much for your efforts on this project. We're looking forward to reading the report in final form.

Have a great summer & best regards,

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"We Connect What's Next"

[Network Map](#)