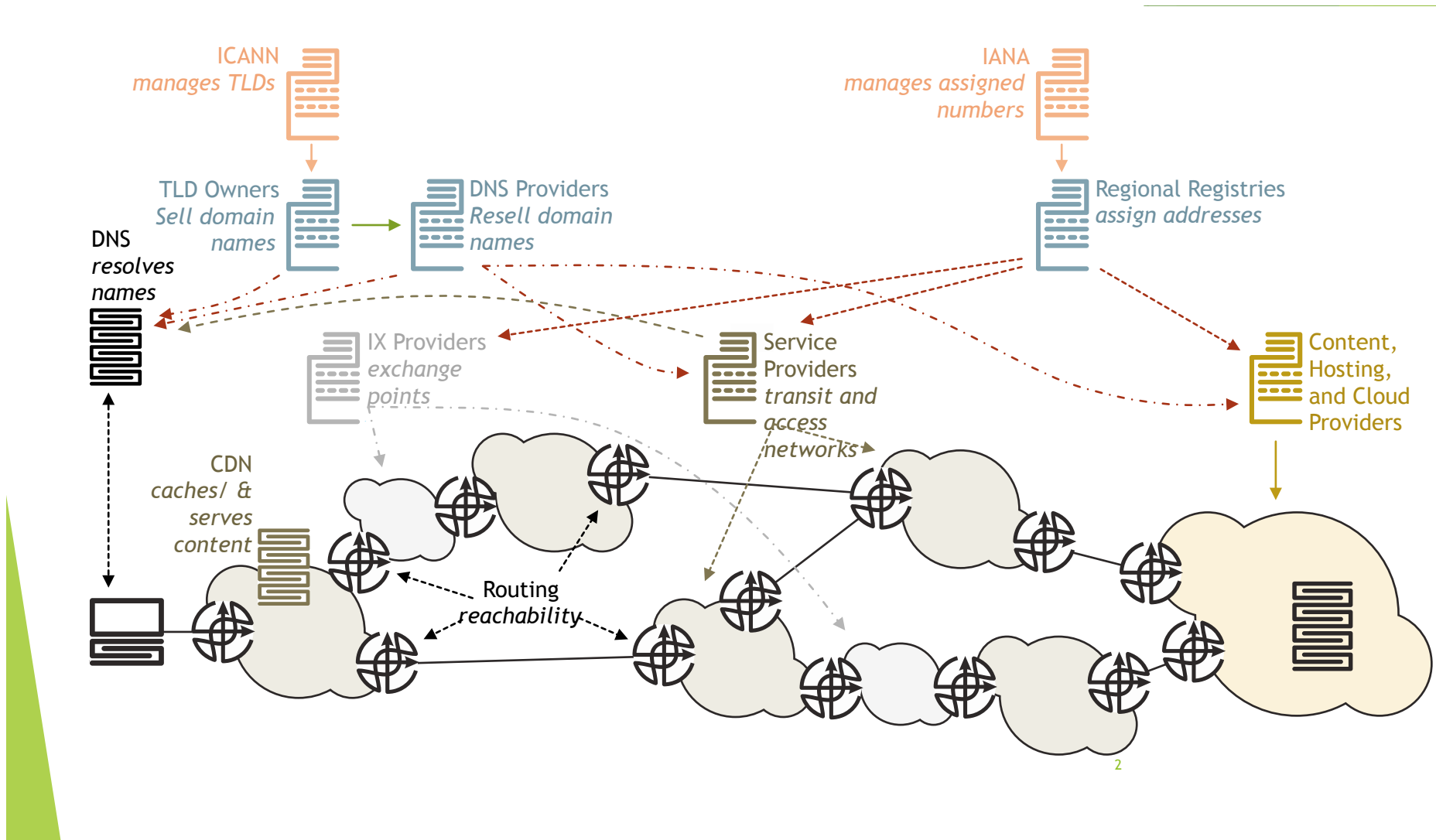
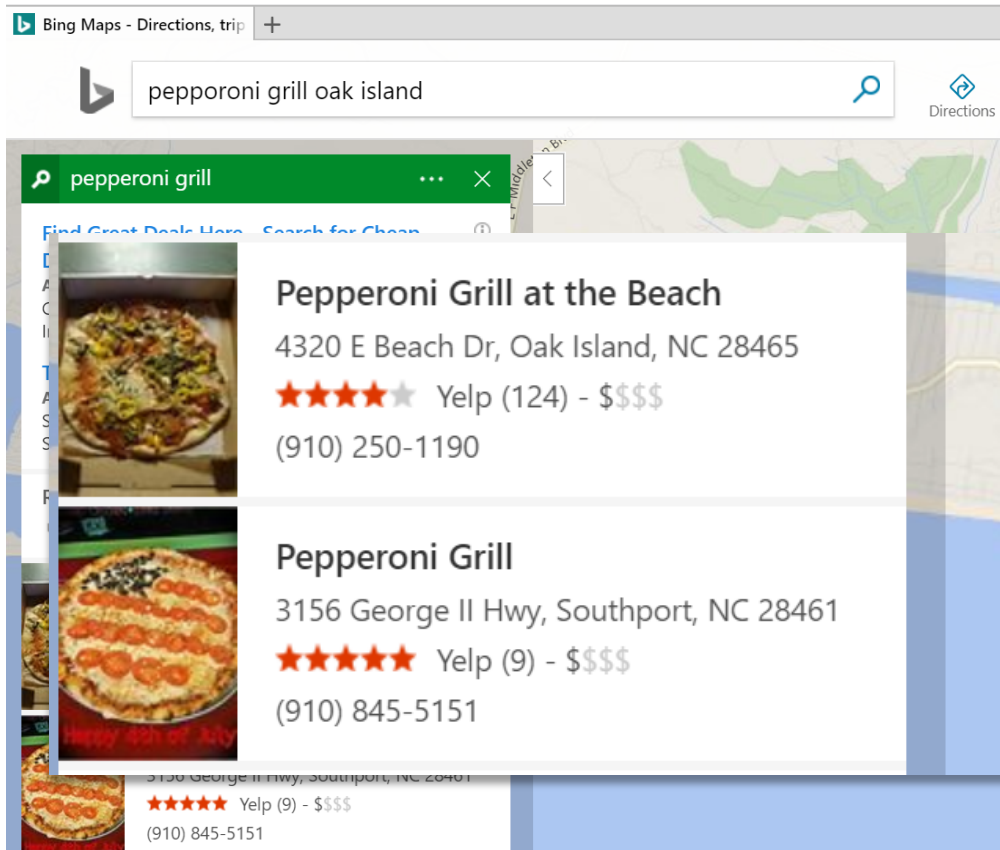


The background features abstract geometric shapes. On the left is a tall, thin green triangle pointing downwards. On the right is a large green rectangle. At the bottom right, a yellow triangle points upwards, partially overlapping the green rectangle. Thin green lines intersect these shapes, creating a dynamic composition.

The 'net and it's Ecosystem

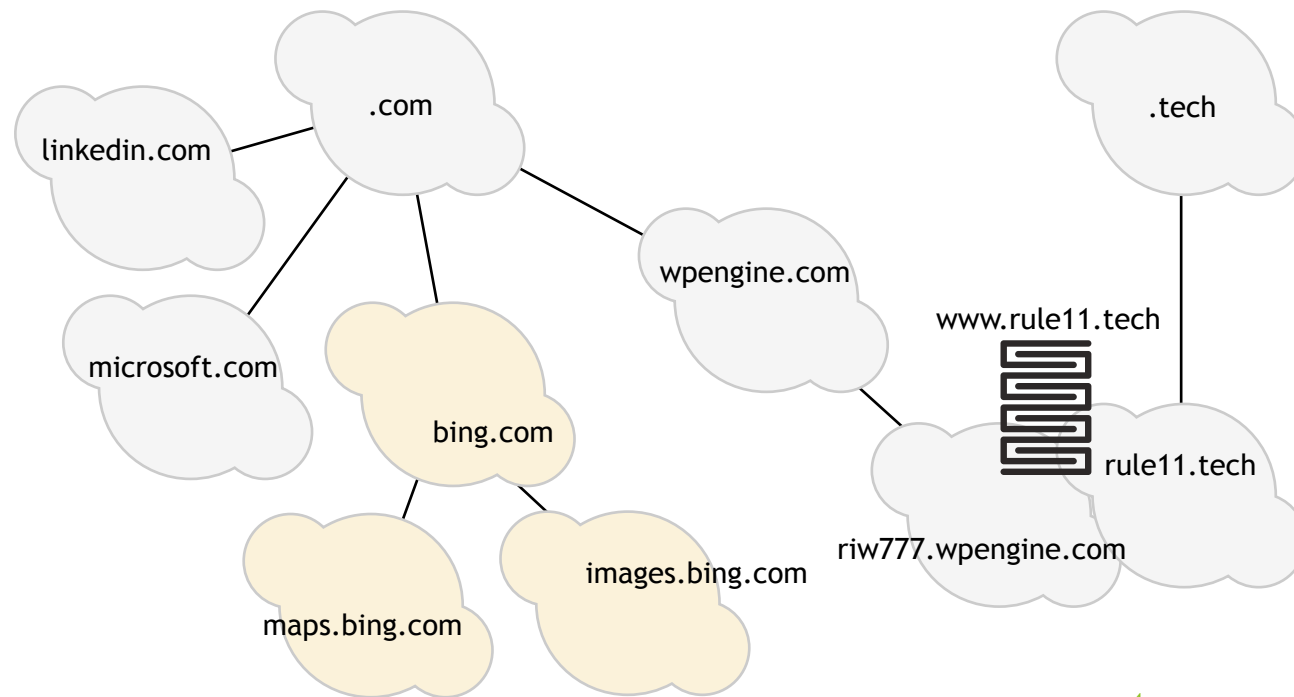


What is DNS?



http://www.rule11.tech

Service or Protocol	Sub-Domain	Domain	Top Level Domain
---------------------	------------	--------	------------------





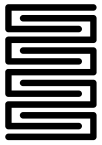
Root



TLD



Authoritative



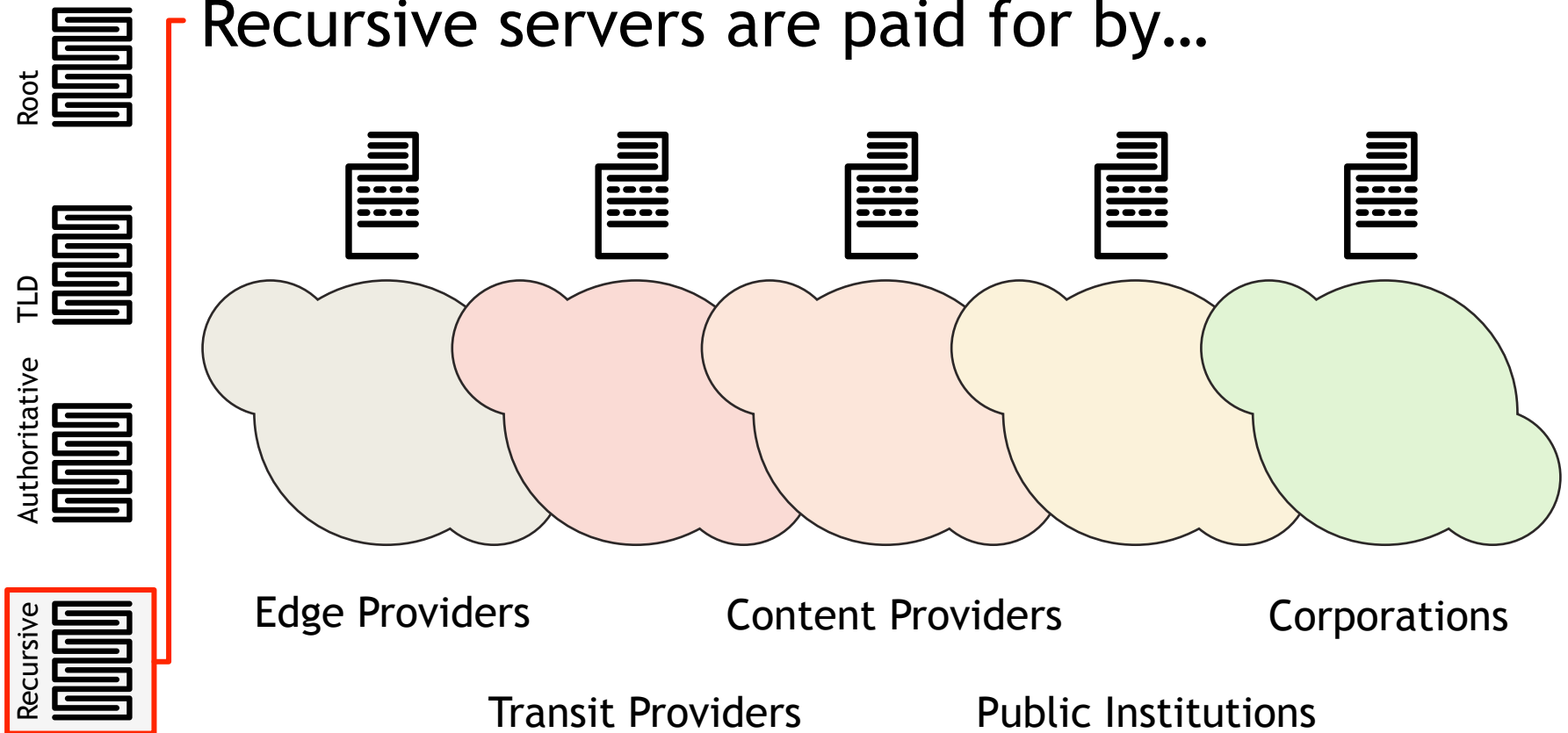
Recursive



- Hardware
- Software
- Operations
- Maintenance
- Bandwidth
- Standards Development

Who pays for these?

Recursive servers are paid for by...





Root servers are paid for by...

- a.root-servers.net Verisign
- b.root-servers.net USC-ISI
- c.root-servers.net Cogent Communications
- d.root-servers.net University of Maryland
- e.root-servers.net NASA
- f.root-servers.net Internet Systems Consortium
- g.root-servers.net Defense Info Systems Agency
- h.root-servers.net US Army Research Lab
- i.root-servers.net Netnod
- j.root-servers.net Verisign
- k.root-servers.net RIPE NCC
- l.root-servers.net ICANN
- m.root-servers.net WIDE Project

Root



TLD



Authoritative



Recursive



TLD servers are paid for by...



VERISIGN™



AUTOMATTIC

neustar™



Uniregistry®

@Alexa

An
amazon.com
company

Root



TLD



Authoritative

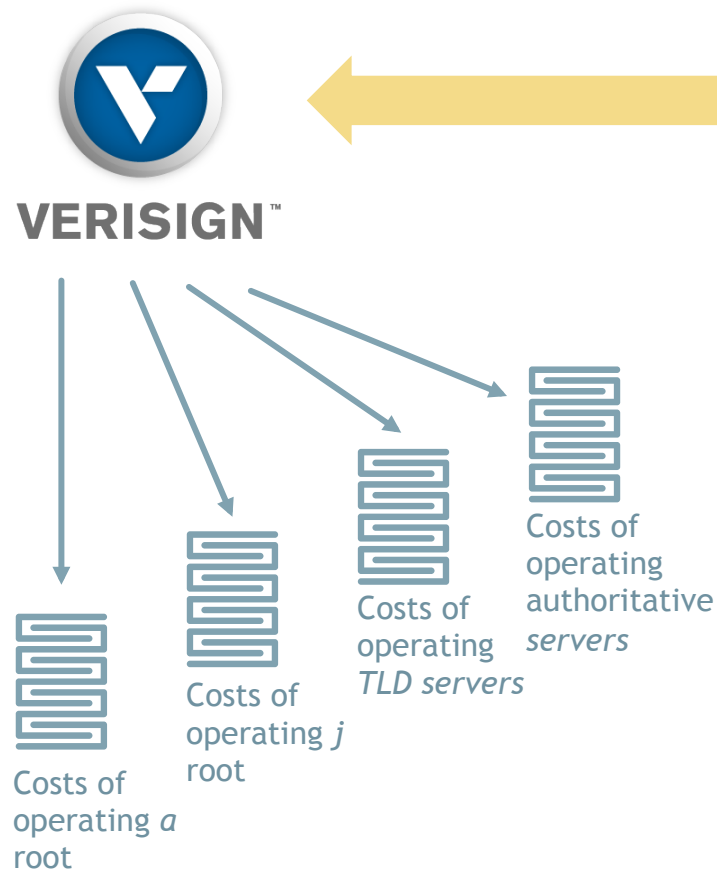


Recursive



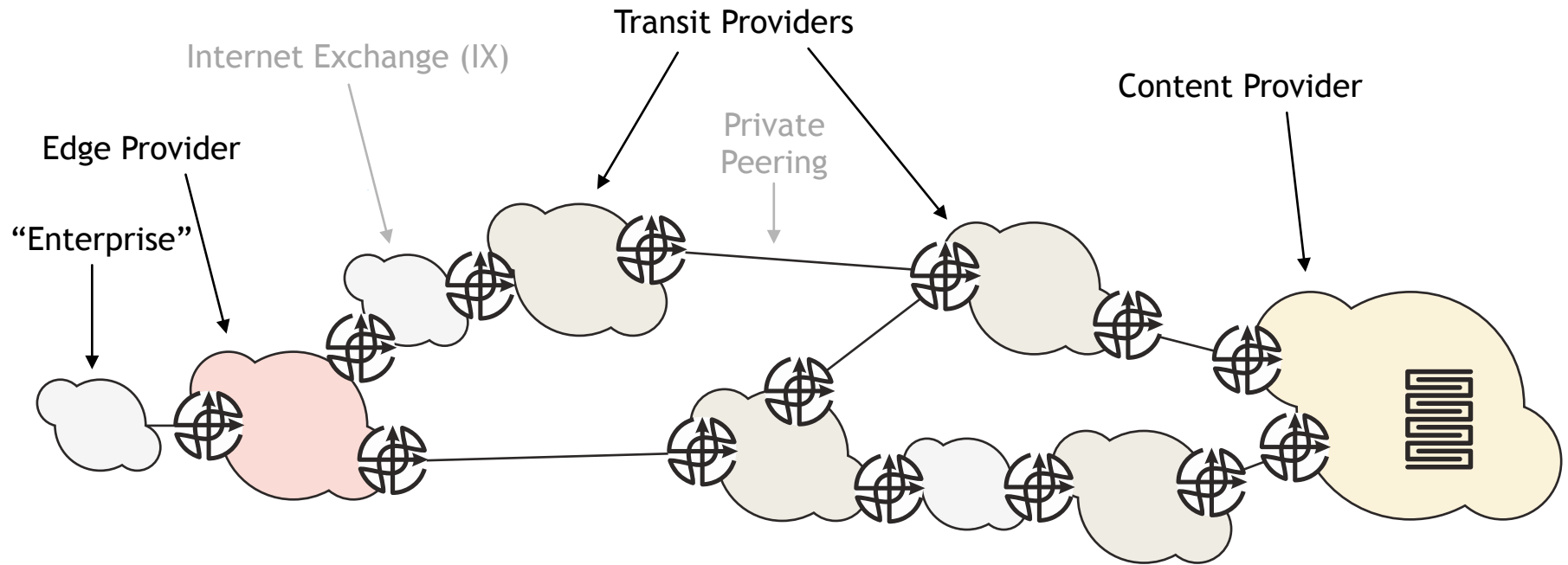
Authoritative servers are paid for by...

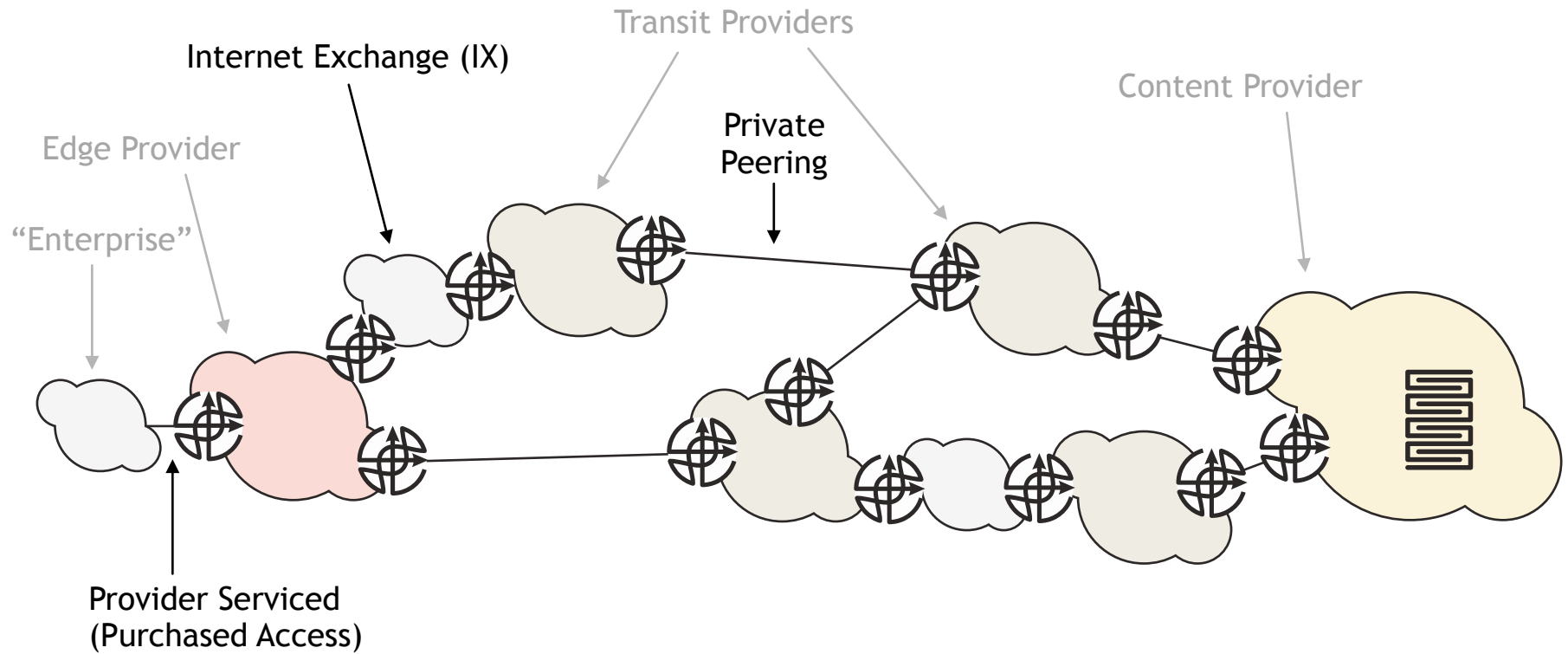


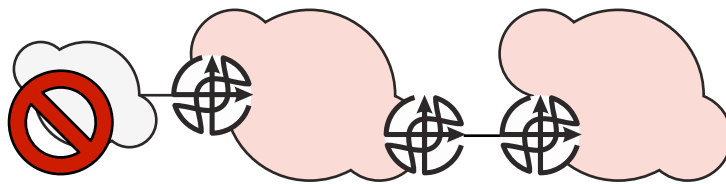


Domain Reseller

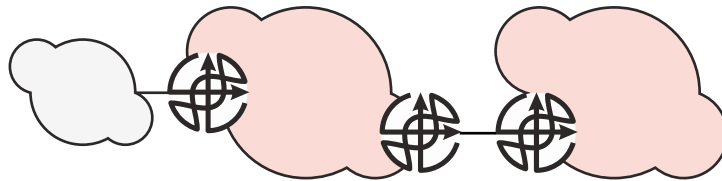
- Market value domain fees
- Hosting fees
- Fixed fee per domain name
- Fixed fee per domain name
- Contract operating fees from TLD holders
- Other operations



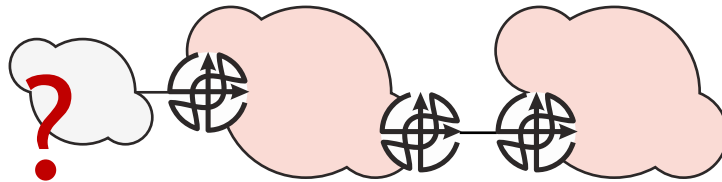




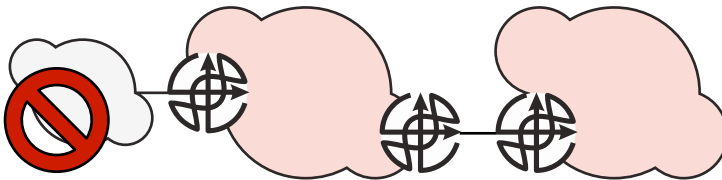
Customer Edge (or
provisioned, or
“enterprise”)



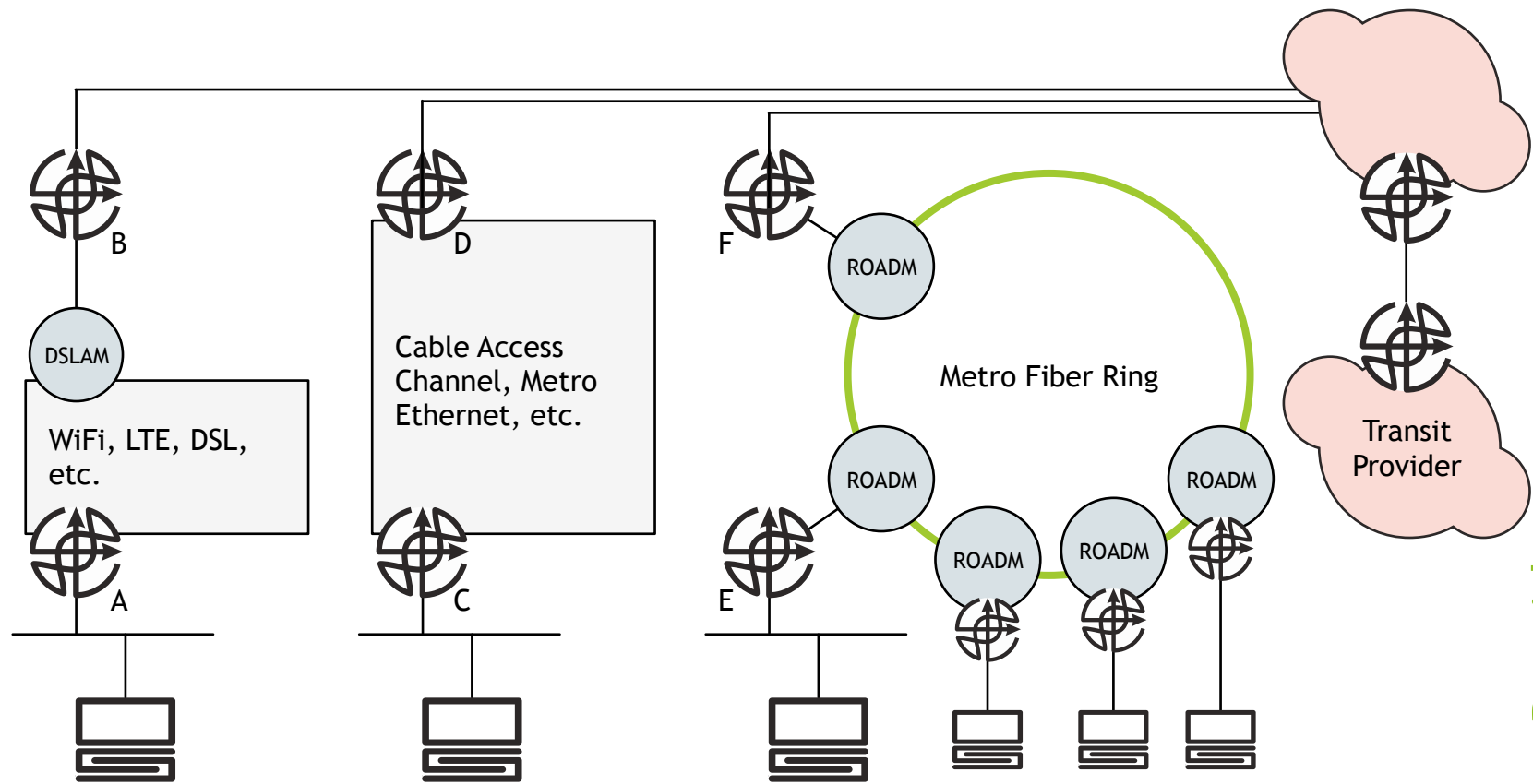
Paid (or *transit*)

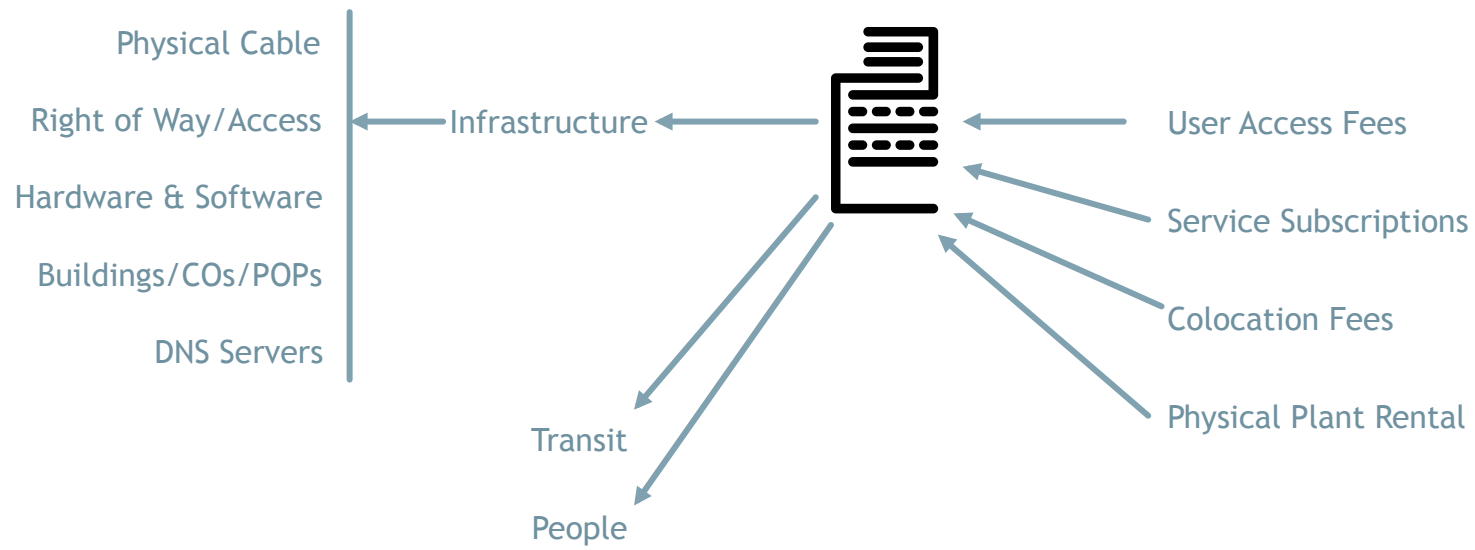


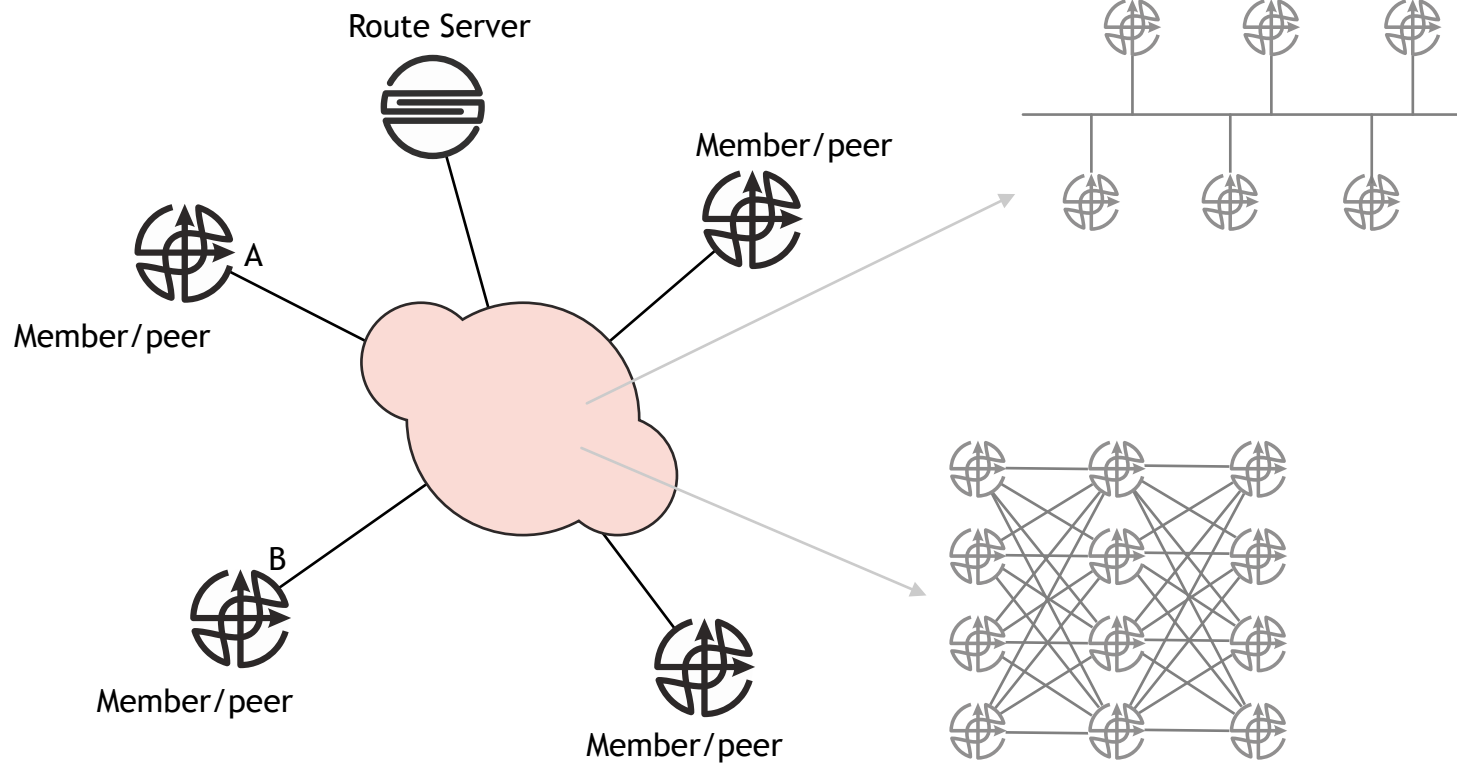
Settlement Free

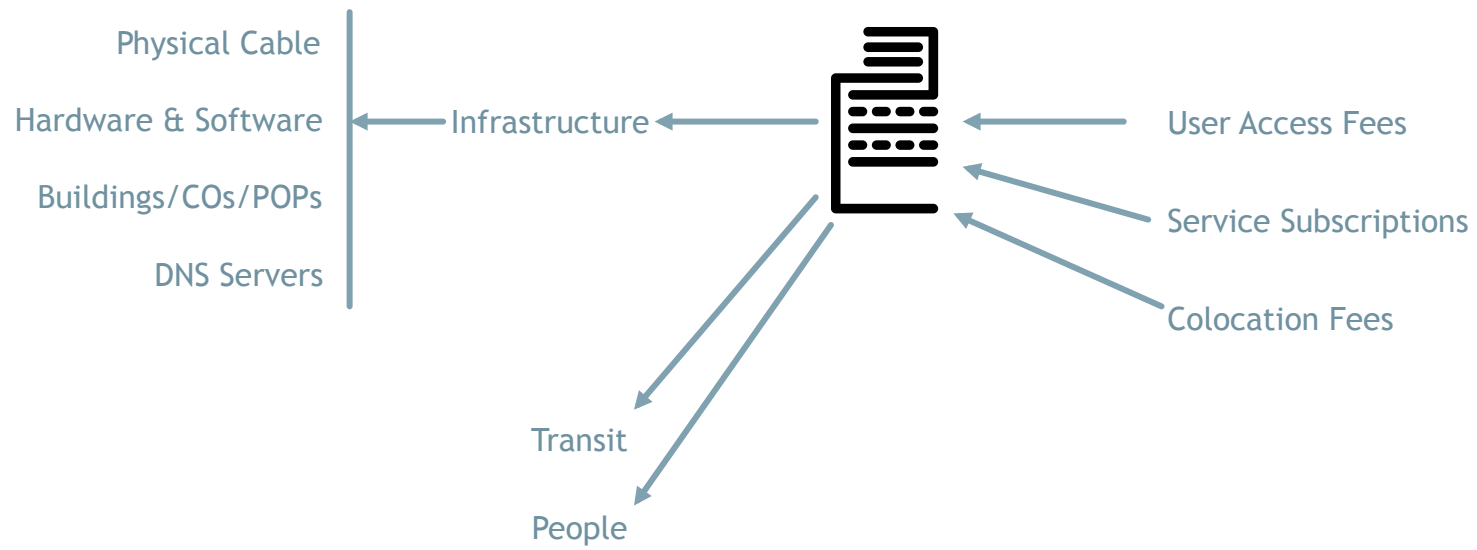


Open



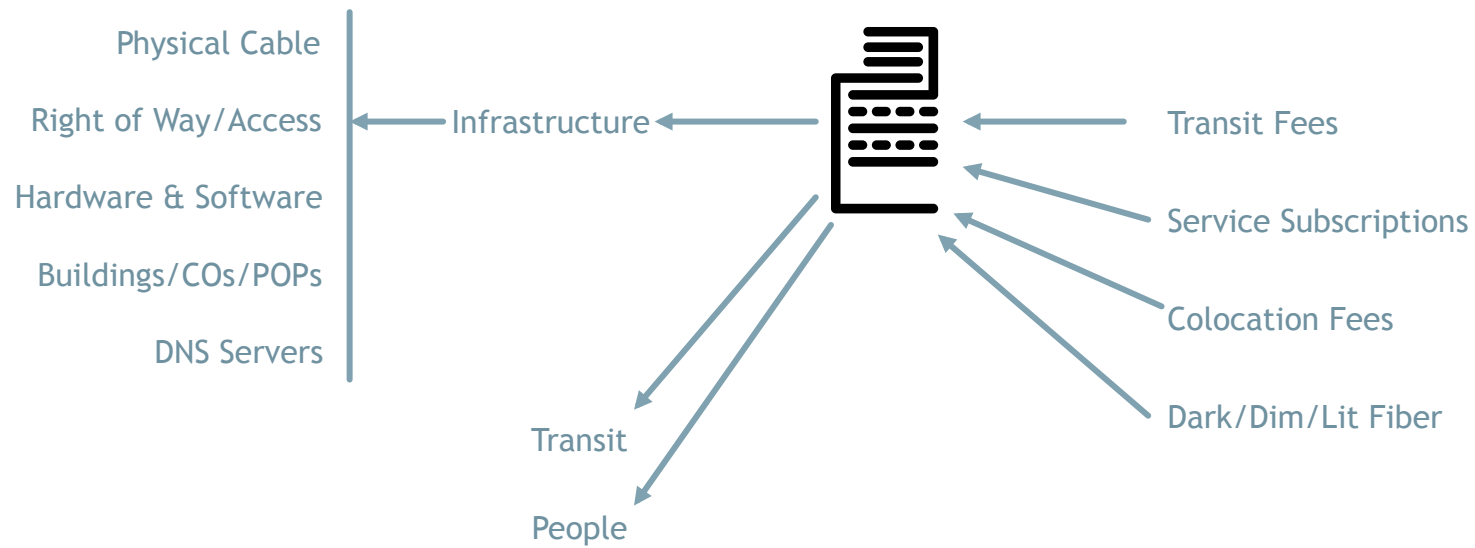


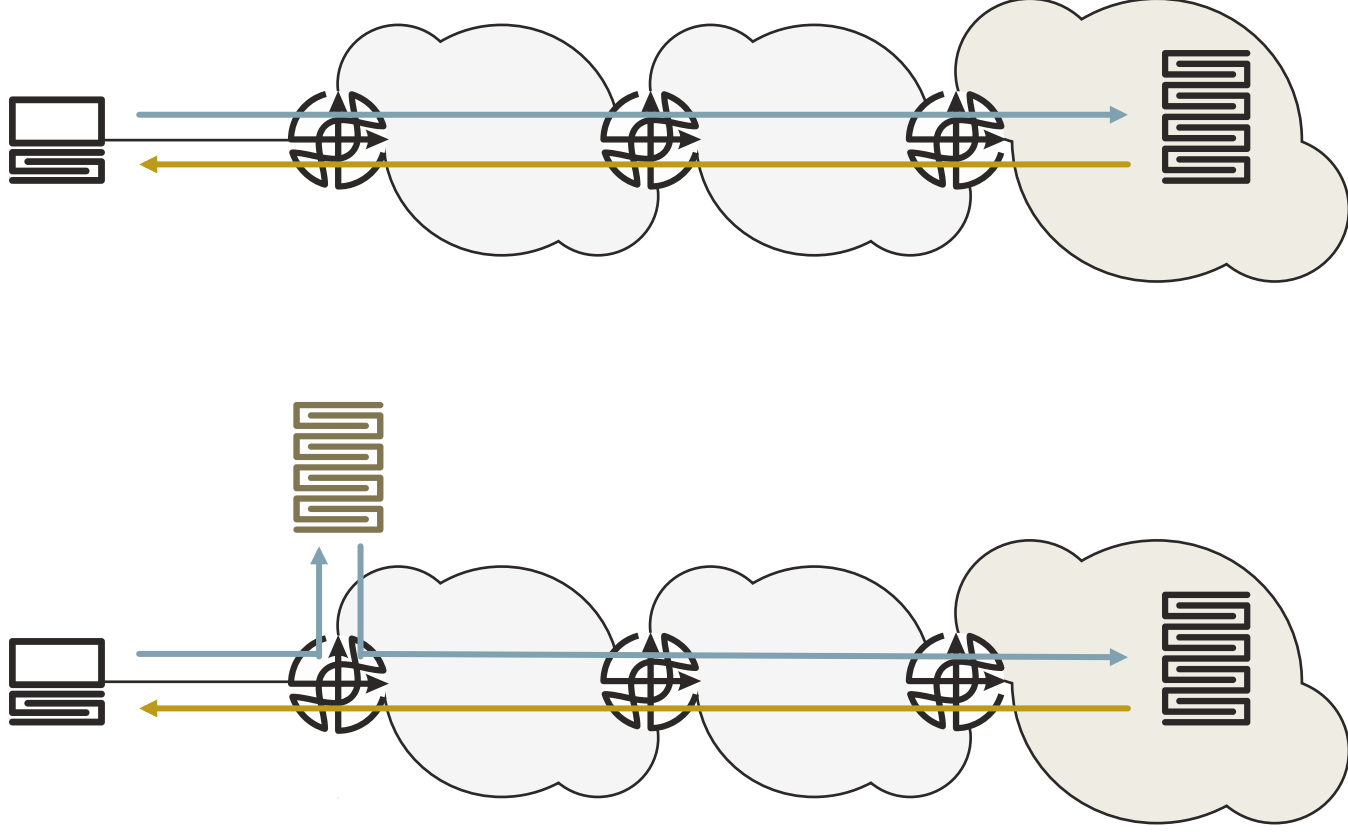






Cogent Communications

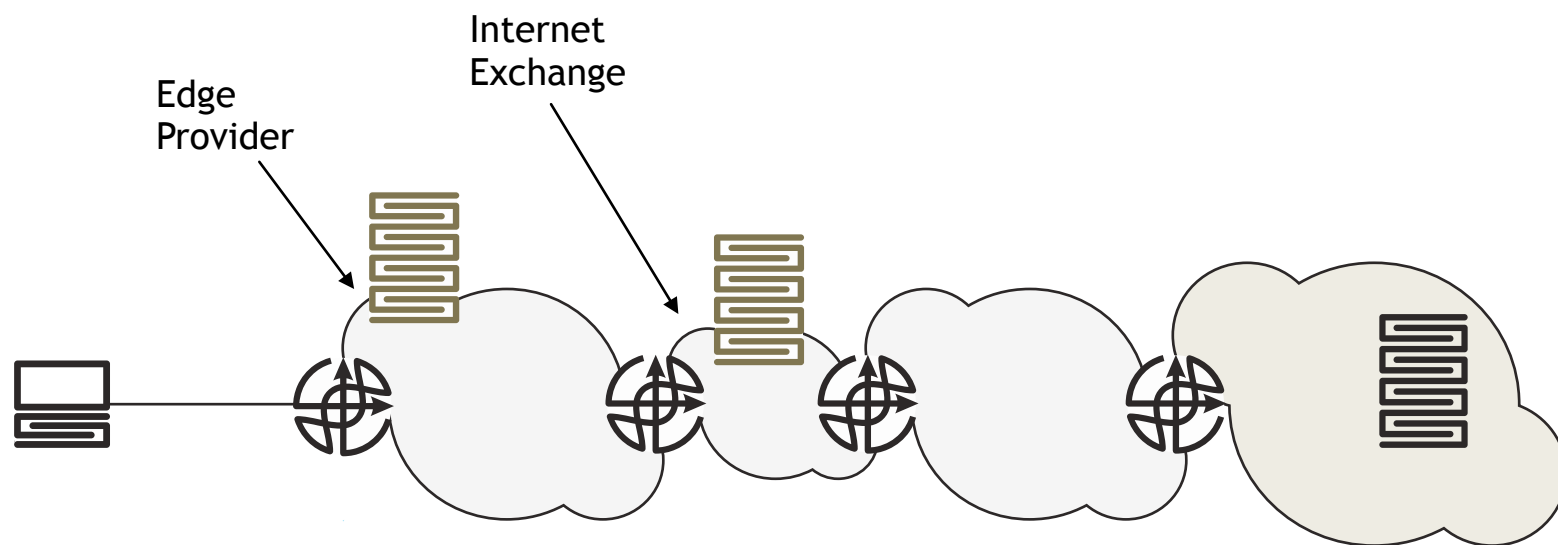


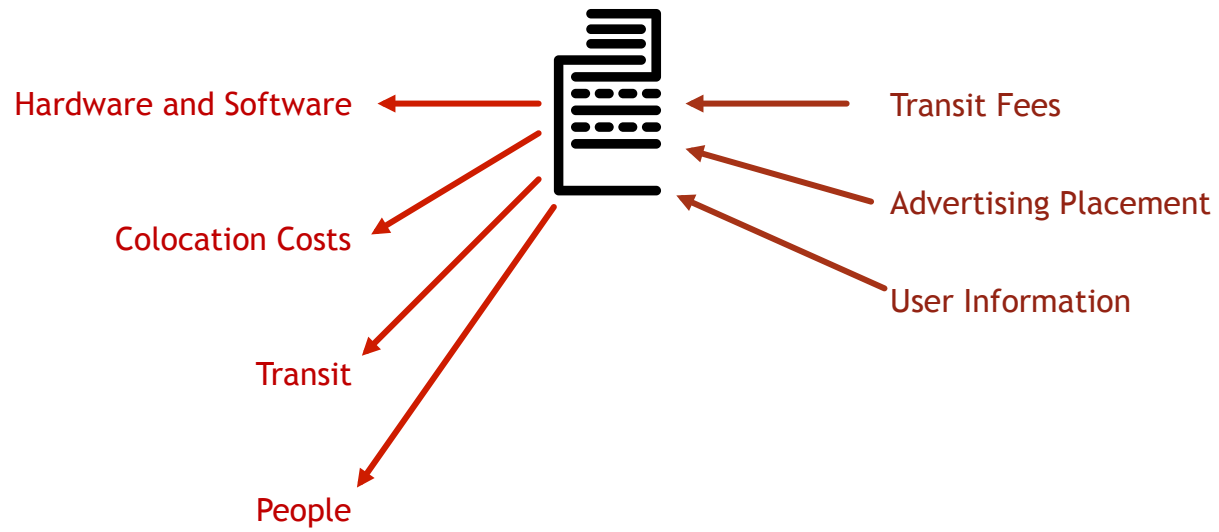


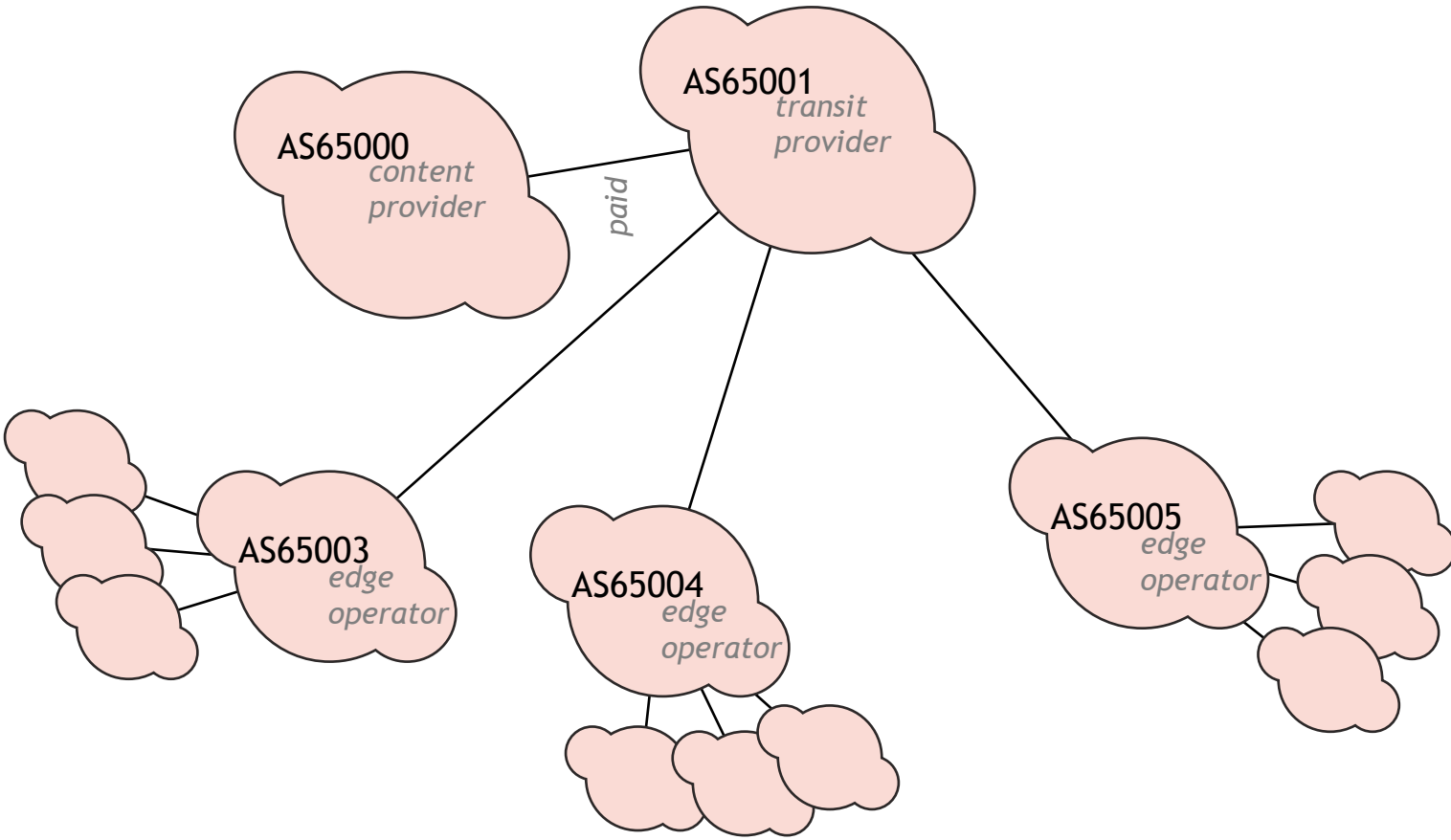
Content Distribution Network

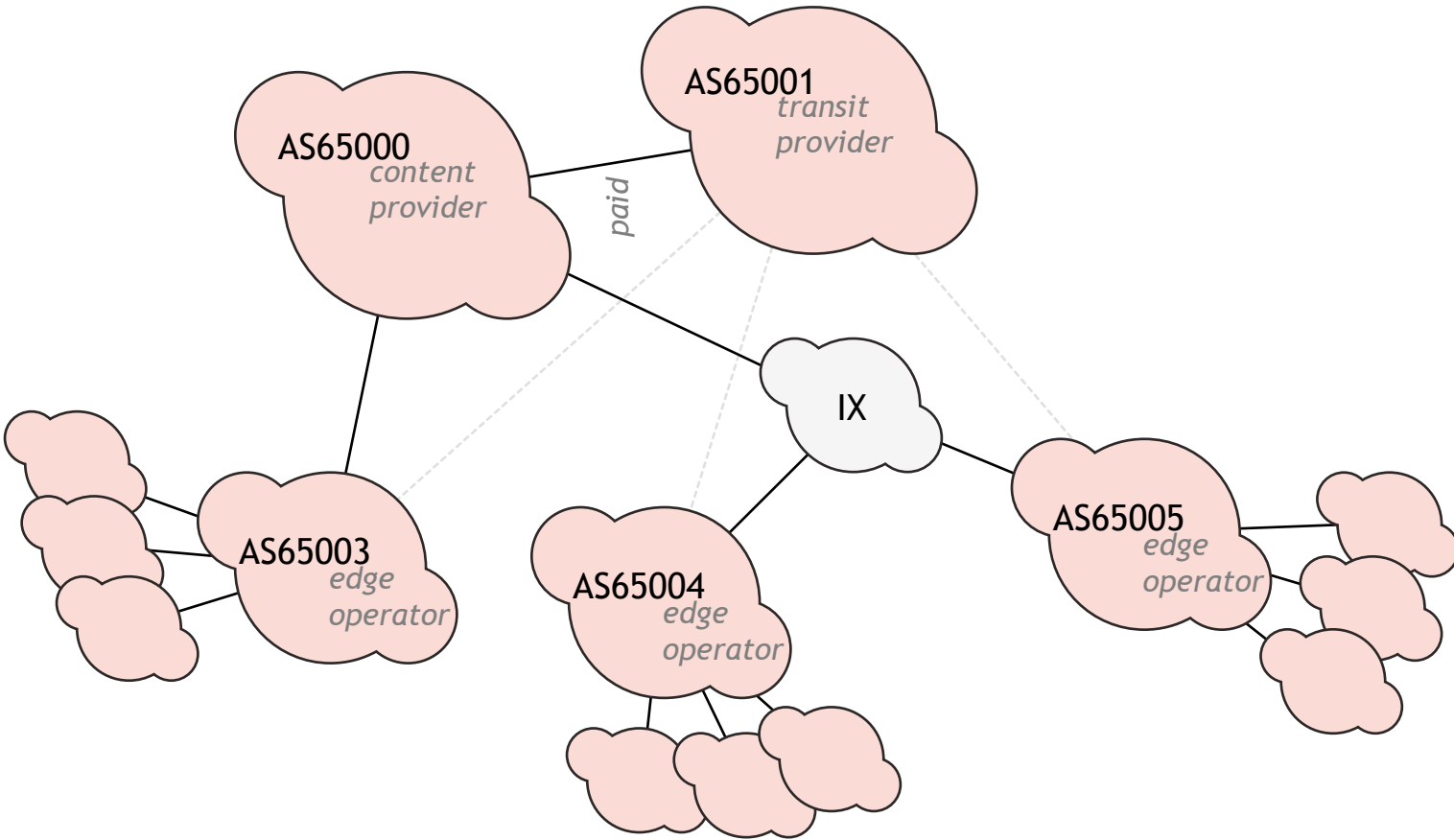
Types of CDN

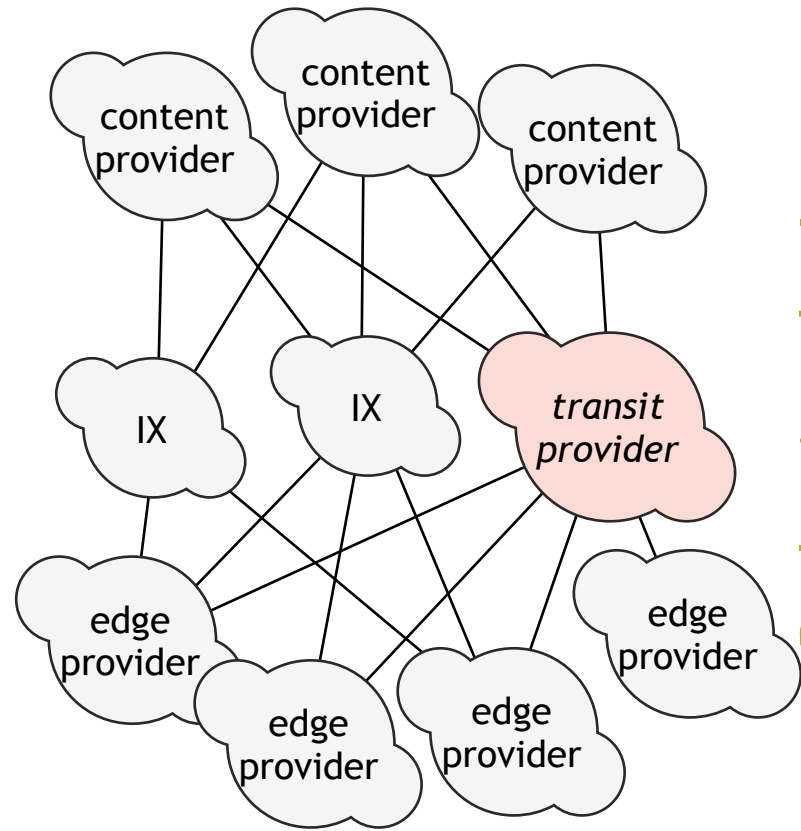
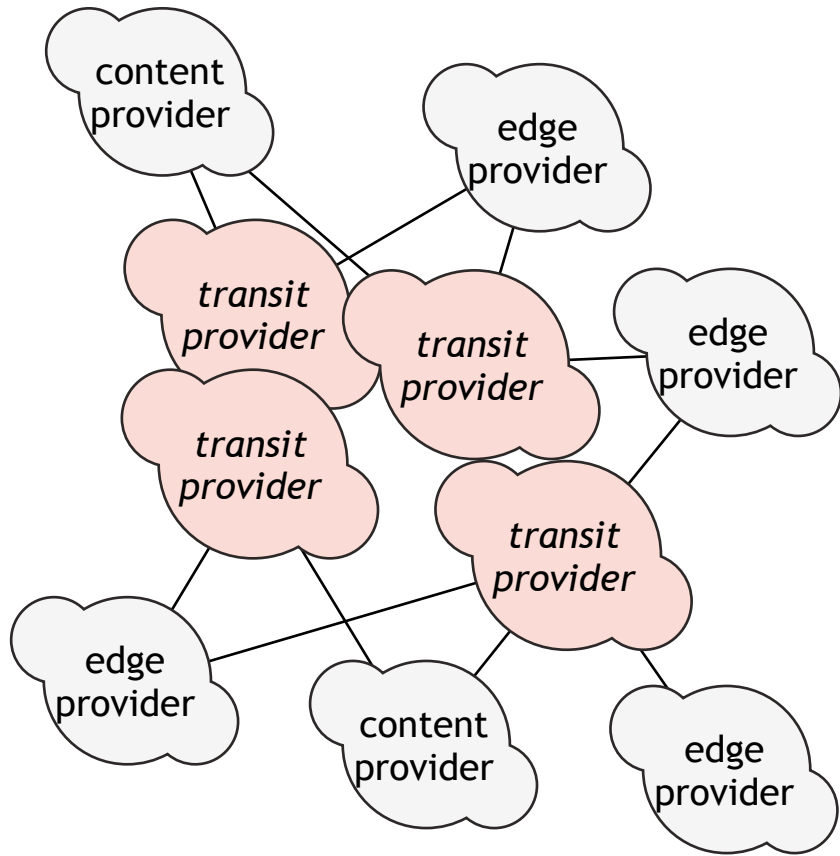
- ▶ Caching
 - ▶ Cache based on TTL
- ▶ Prepositioned Content
 - ▶ Common elements may appear on most pages
 - ▶ Preload these into the cache and serve locally
- ▶ Session Termination
 - ▶ Some sites can terminate sessions at the CDN
 - ▶ Draw only the information needed from











The Reshaping of the Internet

- ▶ What is the result of this change?
- ▶ Transit providers are struggling to survive
- ▶ Content providers are gaining more control over their content
- ▶ Raises the bar for entry into the content market
 - ▶ Although public cloud may offset this somewhat
- ▶ Difficult to determine
 - ▶ Is this good or bad? Hard to tell right now



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The Internet Engineering Task Force (IETF®)

The goal of the IETF is to make the Internet work better.

The mission of the IETF is to make the Internet work better by producing high quality, relevant technical documents that influence the way people design, use, and manage the Internet. Newcomers to the IETF should [start here](#).

News

- [IETF 104 in Prague!](#)
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- [IETF Daily Dose](#)

Next Meeting: IETF 101 London

[IETF 101 - March 17-23, 2018](#)

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- [Meeting Materials](#)
- [Remote Participation](#)
- [Hackathon](#) (open to public)



Email Archives

A new mail archive tool realizing the requirements developed in RFC 6778 is now in use:

- [Search all IETF email archives](#)

If you choose to log in, use your datatracker credentials.

([Read full announcement in the archives here.](#))

Recent Meeting: IETF 100 - Singapore

- [IETF 100 Information](#)
- [IETF 100 Proceedings](#)

Internet-Drafts and RFCs Quick Search

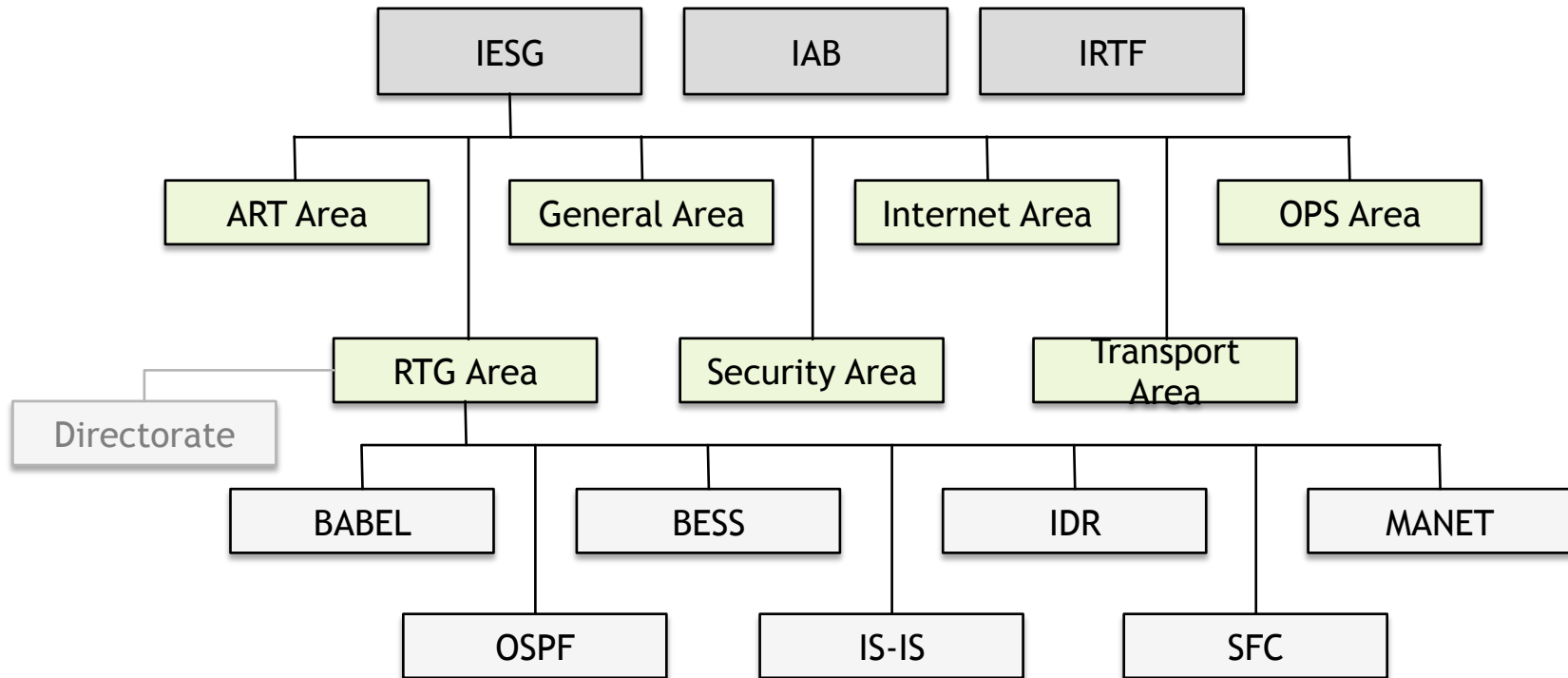
Related Web Pages

[IASA and IAOC](#) | [IAB](#) | [RFC Editor](#) | [IANA](#) | [IRTF](#) | [IETF Trust](#) | [ISOC](#)
[ISOC Fellowship to the IETF Program](#)

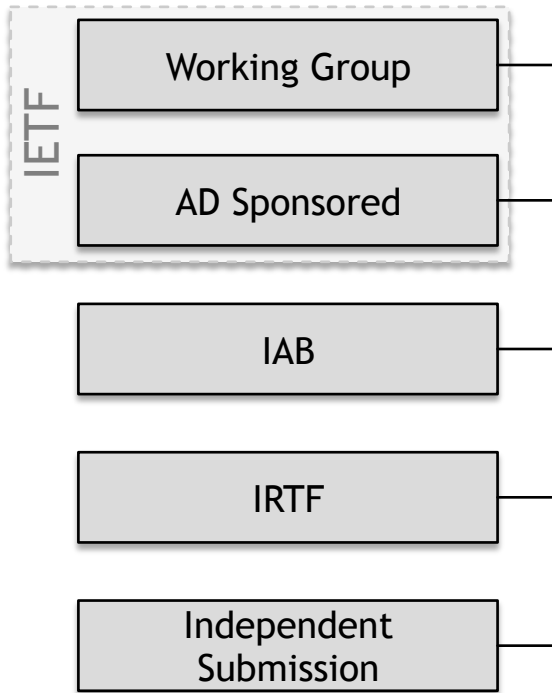
The Internet Engineering Task Force (IETF) is an organized activity of the Internet Society (ISOC).



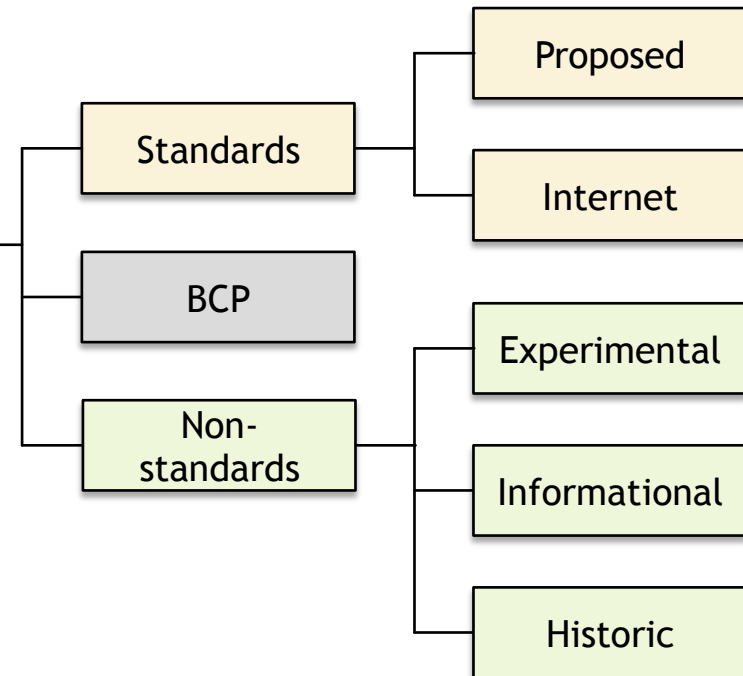
ISOC is a non-profit organization founded in 1992 to provide leadership in Internet-related standards, education, and policy. It is dedicated to ensuring the open development, evolution and use of the Internet for the benefit of people throughout the world. See: www.internetsociety.org

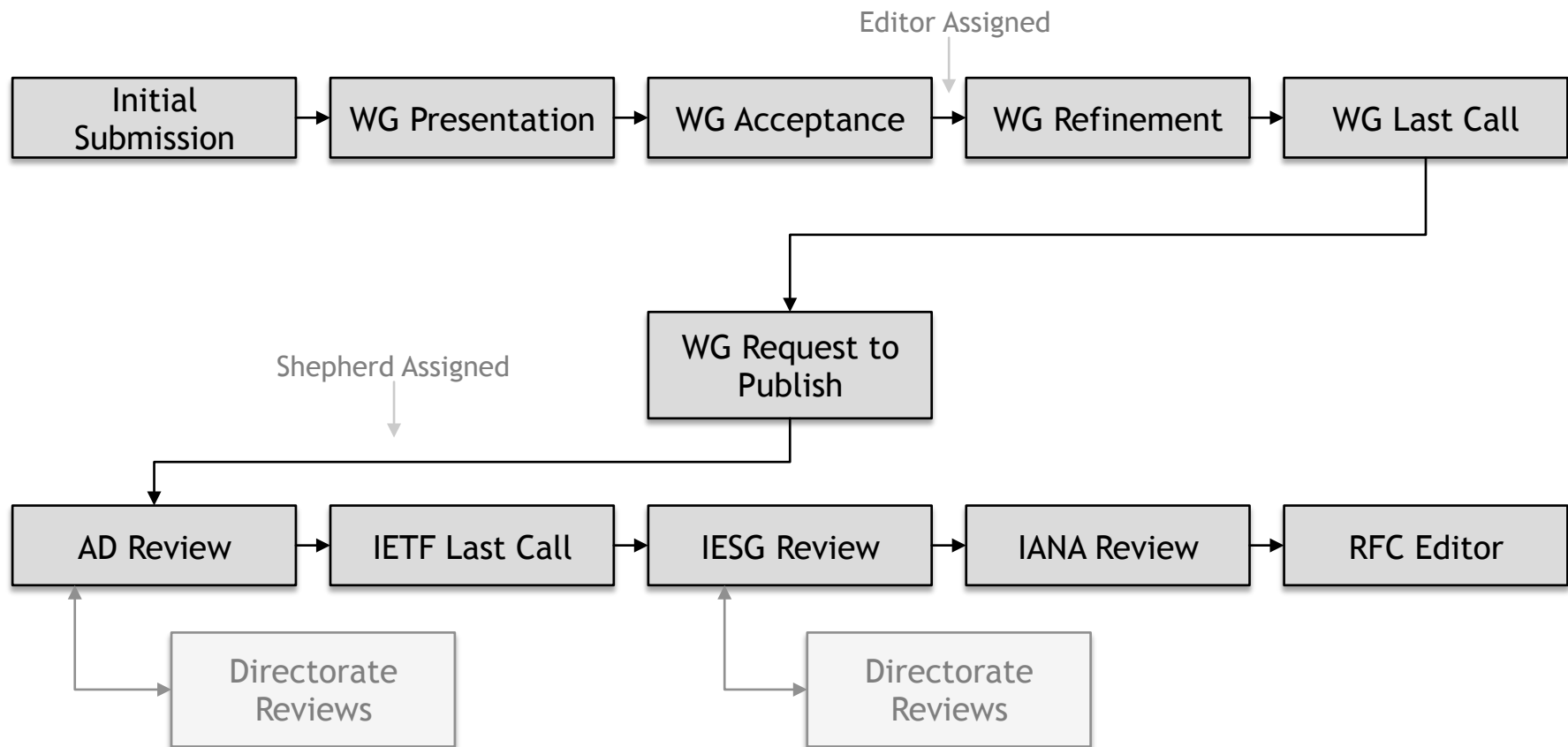


Streams



Statuses





IETF Notes

- ▶ The IETF is consensus driven
- ▶ Running code is required
 - ▶ Some states require two interoperable implementations
- ▶ Until the IETF last call is completed, any member of the community can comment on the document
- ▶ Management and security concerns must be addressed in protocol development
- ▶ This is a long, difficult process, designed to produce solid protocols with a lot of experience behind them



All layer 1 and layer 2 transport and control plane protocols, including Ethernet, spanning tree, and wireless networking



Markup languages (languages which describe how to display or render content), including HTML and XML



Any international standard, including numbering, encryption schemes, and routing protocols (such as IS-IS)



- Corporate membership and participation
- Members mostly vendors
- Standardization through formal voting



- Voluntary membership and participation
- Members mostly vendors, providers, researchers
- Standardization through rough consensus



- Governmental and corporate (NGO) membership and participation
 - Members mostly government and vendor representatives
 - Standardization through formal voting
-

