



Internet Protocol RFC 791, 1981

http://www.ietf.org/rfc/rfc791.txt

The internet protocol is specifically limited in scope to provide the functions necessary to deliver a package of bits (an internet datagram) from a source to a destination over an interconnected system of networks. There are no mechanisms to augment end-to-end data reliability, flow control, sequencing, or other services commonly found in host-to-host protocols. The internet protocol can capitalize on the services of its supporting networks to provide various types and qualities of service.

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A distinction is made between names, addresses, and routes [4]. A name indicates what we seek. An address indicates where it is. A route indicates how to get there. The internet protocol deals primarily with addresses.

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BGP for routing

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- YouTube has ASN 36561
- Duke has ASN 13371
- BGP Routers communicate with neighbors
 - > I have a route to xyz
 - I have a route to xyz
 - > 45,000 updates/minute
- No central source of trust, who do you trust?
 - > Transitive trust model for BGP routing

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IETF: Internet Engineering Task Force

- "governs" the Internet (according to some)
 - > What does this mean? Who elects the members?
- RFC: request for comments
- Anyone can write an RFC and independently submit it to the RFC Editor for possible publication. It will be published after review, and perhaps revision, for technical competence, relevance, and adequate writing.

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> <u>http://www.rfc-editor.org/rfcfaq.html</u> Compsci 82, Fall 2009 What does the IETF do? **Juniper**

The IETF has at times been ascribed nearly magical abilities by the trade press, who assumed its mechanisms were responsible for the success of the Internet because it works on the Internet's core protocols. The reality that it is a group of engineers putting together specifications so that multiple vendors' products can operate across networks is considerably more mundane.
http://en.wikipedia.org/wiki/IETF

CISCO

The Tao of the IETF



• http://www.ietf.org/tao.htm

• The Internet Engineering Task Force is a loosely self-organized group of people who contribute to the engineering and evolution of Internet technologies. It is the principal body engaged in the development of new Internet standard specifications. The IETF is unusual in that it exists as a collection of happenings, but is not a corporation and has no board of directors, no members, and no dues;

Rough consensus and running code

• One of the "founding beliefs" is embodied in an early quote about the IETF from David Clark: "We reject kings, presidents and voting. We believe in rough consensus and running code". Another early quote that has become a commonly-held belief in the IETF comes from Jon Postel: "Be conservative in what you send and liberal in what you accept".

Is the IETF a governing body?

"A government interested in using us is a government interested in how we work." In other words, once governments realize what a treasure there is in the Net, they want to mess with it, regulate it, and censor it

http://www.wired.com/wired/archive/3.10/ietf pr.html

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Who runs the Internet? You do!

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• One more thing that is important for newcomers: the IETF in no way "runs the Internet", despite what some people mistakenly might say. The IETF makes standards that are often adopted by Internet users, but it does not control, or even patrol, the Internet. If your interest in the IETF is because you want to be part of the overseers, you may be badly disappointed by the IETF.

http://www.marvel.com/universe/Antiphon the Overseer

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