IETF update

UKNOF
2006-01-10

Agenda

- Short overview of the IETF organisation
- Overview of operations related activities per Area
- There is a new area (Real time applications) being formed as well, but I have left that out so far

IETF organisation

- Work is done in over 60 working-grops
- Workinggroups are split in 7 Areas
  - Each area is lead by 1-2 Area Directors
  - The Area Directors are members of the Internet Engineering Steering Group (IESG)
  - In addition there is the Internet Architecture Board (IAB) and the IETF Administrative Support Activity (IASA)

IETF organisation

- In addition to areas and WGs the IETF also have
  - *DIRECTORATES*: Used to give advice and support to the area directors on specific topics or the area in general
  - *DESIGN TEAMS*: Group of people that have been given a specific task by the WG chairs, like producing a technical proposal

IETF standards process

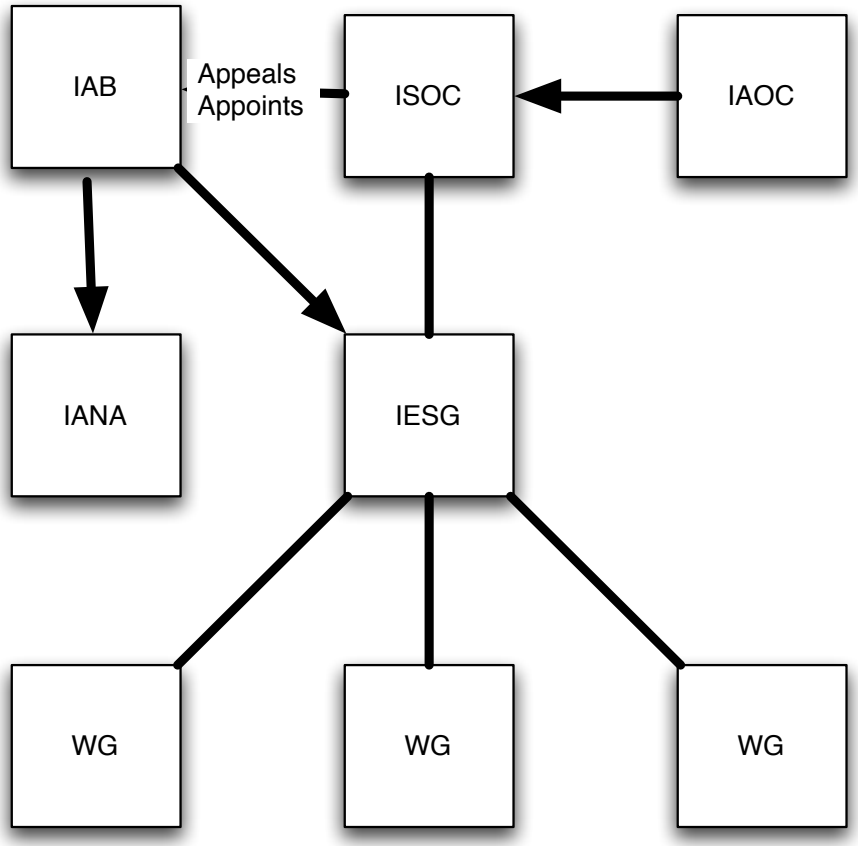
- The process is defined in RFC2026
- IETF standards (Request For Comments, RFCs) can be of several types:
  - ***Best Common Practice***: BCP documents have their own numbering and describes some form of "practice", but not a protocol spec
  - ***Informational***: Does not descibe a protocol standard or a practice, but rather processes or other SDOs specs

IETF Standards Process

- ***Proposed Standard***: Entry point for standards documents. Specification is stable. No operational or implementation experience needed
- ***Draft Standard***: Two independent and interoperable implementations that are not derived from each other needed.
- ***Standard***: Operational and implementation exerience is gained and specification is relied upon. Also given an STDXXXX number
- ***Experimental***:Research or development effort.

Areas

- Applications Area
- General Area
- Internet Area
- Operations and Management
- Routing Area
- Security Area
- Transport Area



Applications Area

- Two ADs (Ted Hardie and Scott Hollenbeck)
- Handles the application layer, such as LDAP, CRISP, WEBDAV, SIEVE etc)
- Current work involves
  - Calendar/Scheduling
  - Lemonade - “Mobile mail”, how do mobile clients interact with the mail-server(s).

General Area

- AD is the IETF chair (Brian Carpenter)
- Handles mostly administrative issues
- Currently only two WGs
  - IPR
  - newtrk (Discussion on developing a new/ update the standardsprocess

Internet Area

- Two ADs (Mark Townsley and Margaret Wasserman)
- Handles internet area issues such as encapsulations (IP over...), VPN, tunneling and DNS...
- Some details on some working groups...

Internet Area

- ntp WG
  - Tasked with actually documenting the NTP protocol as used today
  - Also to update the protocol with new features such as improved traceability and security
  - Also deals with some clocking issues that comes from other WGs such as PWE3

Internet Area

- shim6
  - Follow up to multi6
  - Handles the “scalability problem of site multihoming in IPv6”
  - We all know that the current more specific prefix announcements won’t scale
  - We have given up on waiting on the big “graph theory break-through”...
  - But there is a separate session on this later.

Internet Area

- ipv6
  - Specifies / Specified the IPv6 base protocol
  - Should be closed down fairly soon
  - Have done some updates and clean ups
- trill
  - Was originally called RBridges
  - A node that needs to move in a campus will most likely switch subnets and therefore have to be re-numbered
    - Causes significant problems in campus
    - Partly an artifact of scaling concerns with spanning-three and bridged networks

Internet Area

- trill cont.
  - Goals of trill
    - Let the node keep it's IP-address
    - Have the network (routers and switches) autoconfigure
    - Provide the advantages of bridging for mobility...
  - Each RBridge runs ISIS
  - Populates the routeing table with a new TLV MAC-address encoding
  - "Router ports" on the ingress RBridges takes the packet, looks up the dst MAC address and sends the packet encapsulated (tunnelled) to the egress RBrdige
  - Egress RBridge de-encapsulates the packet and sends it on the wire.

Operations and Management

- Two ADs (David Kessens and Bert Wijnen)
- Handles general operational practices
- “Normally” do not specify protocols

Operations and Management

- grow
  - Handles issues around global operations
  - Anycast BCP
  - Collection communities
- opsec
  - Specifies some best operational security practices
  - Non-normative

Operations and Management

- v6ops
  - Operational (BCP) guidelines and protocols for IPv6
- Netconf
  - Configuration and config retrival protocol
  - SNMP didn't really cut it...

Routing Area

- idr
  - BGP specification and additions
- ospf
  - Develop OSPF, such as fast convergence and hitless fall-over. IPv6 spec.
- isis
  - IS-IS is not an IETF protocol, it's an ITU protocol
  - Specifies TLVs and publishes the ISIS spec as Informational

Routing Area

- rpsec
  - Routing protocol security
  - Work based on attack-three analysis of routing protocols

Security Area

- Two ADs (Russ Housley and Sam Hartman)
- Security protocol and algorithms

Transport Area

- Two ADs (Allison Mankin and Jon Peterson)
- General transport protocols such TCP, UDP, SCTP
- But also all the "call releated" WGs such as SIP, SIPPING, ENUM etc.

Transport Area

- But let's focus on something that is actually not a WG at all....
- At IETF62 in Paris a BOF was held on VoIP peering, and again at IETF63 in Vancouver
  - To give some background let's start with NGN....

Transport Area

- voipeer
  - NGN, Next Generation Network
    - The bad news
      - ITU driven walled-garden "cementation" of current carrier business models
    - The good news
      - Hey, they have adopted IP and packets!

Transport Area

- voipeer cont.
  - As VoIP is catching on the carriers feel they need to adopt their "peering" arrangements to VoIP
  - Very split view on what this means, driven by terminology confusion
  - Many doesn't see the problem

Transport Area

- voipeer cont.
  - "Carriers" want to implement the NGN service model, and think there is signalling needed to implement voice exchange
  - Hard to see that this will lead to real development
  - More a discussion forum - that *IS* needed
    - And that can produce documents to clarify issues

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