

IETF Activities Update

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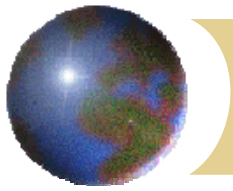
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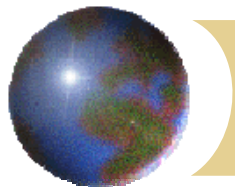
ARIN XXIII

April 26, 2009



Note

- ❖ This presentation is not an official IETF report
 - ❖ There is no official IETF Liaison to ARIN or any RIR
- ❖ It is, however, believed to be accurate
- ❖ Errors are the sole responsibility of the authors
- ❖ This presentation is not a detailed review of documents mentioned



Routing & Addressing

Routing and Addressing

- Revised problem statement (draft-narten-radir-problem-statement-03.txt) posted in March
- Solution efforts pursued in Routing Research Group

Routing Research Group (RRG)

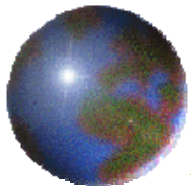
- Locator/ID Separation (LISP) WG formed in IETF
- Discussion continues on multiple approaches/solutions.

Routing Area Working Group

- Multiple sessions at IETF meetings continue





Active Documents:

- "IP Fast Reroute Framework" (rtgwg-ipfrr-framework)
- IP Fast Reroute Using Not-via Addresses (rtgwg-ipfrr-notvia-addresses)
- A Framework for Loop-free Convergence (rtgwg-lf-conv-frmwk)



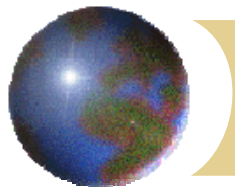
IPv6 Maintenance WG (6man)

Active documents:

-  "IPv6 Node Requirements RFC 4294-bis" (6man-node-req-bis)
-  "IPv6 Subnet Model: the Relationship between Links and Subnet Prefixes" (6man-ipv6-subnet-model)
-  "Handling of overlapping IPv6 fragments" (6man-overlap-fragment)
-  "Considerations for IPv6 Address Selection Policy Changes" (chown-addr-select-considerations) - design team document




Recent RFCs:

-  "Reserved IPv6 Interface Identifiers " (RFC 5453)



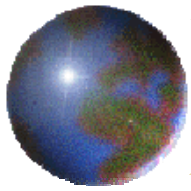
V6 Operations (V6OPS)

Active Drafts:

-  "Recommended Simple Security Capabilities in Customer Premises Equipment for Providing Residential IPv6 Internet Service" (v6ops-cpe-simple-security)
-  "IPv6 CPE Router Recommendations" (v6ops-ipv6-cpe-router)
-  "IPv6 RA-Guard" (v6ops-ra-guard)

Recent RFC's:

-  "IPv6 Unicast Address Assignment Considerations" (RFC 5375)



SHIM6 WG

☉ *Main Documents finally cleared IESG*

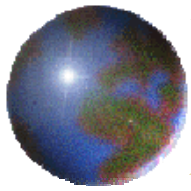
- ☒ Next steps for WG under discussion (shutdown or leave open to collect experience?)

☉ *RFC Editor queue*

- ☒ "Level 3 Multihoming Shim Protocol" (shim6-proto)
- ☒ "Failure Detection and Locator Pair Exploration Protocol For IPv6 Multihoming" (shim6-failure-detection)
- ☒ "Hash Based Addresses (HBA)" (shim6-hba)

☉ *Active documents*

- ☒ "Default Locator-pair selection algorithm for the SHIM6 protocol" (locator-pair-selection)
- ☒ "Socket Application Program Interface (API) for Multihoming Shim" (multihome-shim-api)



BEHAVE WG

📍 *Now chartered for IPv4/IPv6 translation*

📍 *Active Documents*

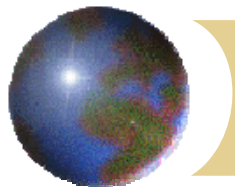
- ❏ "SCTP NAT" (ietf-behave-sctpnat)
- ❏ "Traversal Using Relays around NAT (TURN) Extension for IPv6" (ietf-behave-turn-ipv6)
- ❏ "TURN Extensions for TCP Allocations" (ietf-behave-turn-tcp)
- ❏ "TURN Uniform Resource Identifiers" (ietf-behave-turn-uri)

📍 *IESG Processing*

- ❏ "NAT Behavior Discovery Using STUN" (ietf-behave-nat-behavior-discovery)
- ❏ "TURN: Relay Extensions to STUN" (ietf-behave-turn)

📍 *Recently Published*

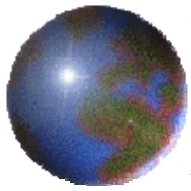
- ❏ "NAT Behavioral Requirements for ICMP" RFC 5508



Internet Area Open MTG


Discussions

- Tunnels in the Internet Architecture
- SEAL
- DHCP vs. Router Advertisement
- Shared ISP addresses














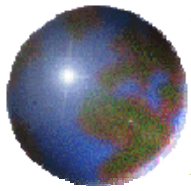
Secure Inter-Domain Routing (sidr)

Expired but not dead:

-  "Validation of Route Origination in BGP using the Resource Certificate PKI" (sidr-roa-validation)

Active documents:

-  "An Infrastructure to Support Secure Internet Routing" (sidr-arch)
-  "A Profile for Bogon Origin Attestations" (sidr-bogons-02)
-  "Certificate Policy (CP) for the Internet IP Address and AS Number (PKI)" (ietf-sidr-cp)
-  "Template for an Internet Registry's Certification Practice Statement (CPS) for the Internet IP Address and AS Number (PKI)" (sidr-cps-irs)
-  "Template for an Internet Service Provider's Certification Practice Statement (CPS) for the Internet IP address and AS Number PKI" (sidr-cps-isp)
-  "A Profile for X.509 PKIX Resource Certificates" (sidr-res-certs)
-  "A Profile for Route Origin Authorizations (ROAs)" (sidr-roa-format)
-  "A Protocol for Provisioning Resource Certificates" (sidr-rescerts-provisioning)
-  "Manifests for the Resource Public Key Infrastructure" (sidr-rpki-manifests)
-  "Securing RPSL Objects with RPKI Signatures" (sidr-rpsl-sig)
-  "A Profile for Trust Anchor Material for the Resource Certificate PKI" (sidr-ta)



Softwire

☛ *Active Docs:*

- ☛ "Dual-stack lite broadband deployments post IPv4 exhaustion" (software-dual-stack-lite)
- ☛ "Load Balancing for Mesh Softwires" (software-lb)

☛ *IESG Processing*

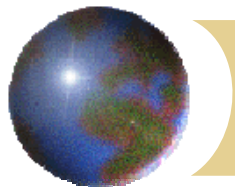
- ☛ "BGP IPsec Tunnel Encapsulation Attribute" (software-encaps-ipsec)
- ☛ "Softwire Hub & Spoke Deployment Framework with L2TPv2 " (software-hs-framework-l2tpv2)
- ☛ "Softwire Security Analysis and Requirements" (software-security-requirements)

☛ *RFC-Editor's Queue*

- ☛ "Traffic Engineering Attribute" (software-bgp-te-attribute)
- ☛ "Softwire Mesh Framework" (software-mesh-framework)
- ☛ "Advertising an IPv4 NLRI with an IPv6 Next Hop" (software-v4nlri-v6nh)

☛ *Newly Published*

- ☛ "BGP Encapsulation SAFI and BGP Tunnel Encapsulation Attribute" (RFC 5512 software-encaps-safi)



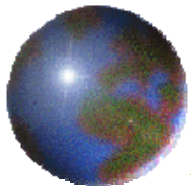
DNS Operations (DNSOP)

Active Documents:

- "AS112 Nameserver Operations" (dnsop-as112-ops)
- "I'm Being Attacked by PRISONER.IANA.ORG!" (dnsop-as112-ops-under-attack)
- "Locally Served Zones" (dnsop-default-local-zones)
- "DNSSEC Trust Anchor Configuration and Maintenance" (dnsop-dnssec-trust-anchor)
- "Requirements for Management of Name Servers for the DNS " (dnsop-name-server-management-reqs)
- "DNSSEC Operational Practices, Version 2" (dnsop-rfc4641bis)

Recent RFC:

- "Preventing Use of Recursive Nameservers in Reflector Attacks " (RFC 5358)



DNS Extensions (DNSEXT)

New WG Documents:

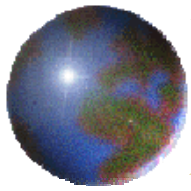
- "DNS Proxy Implementation Guidelines" (dnsext-dnsproxy)

Active Documents:

- "Clarifications and Implementation Notes for DNSSECbis" (dnssec-bis-updates)
- "Update to DNAME Redirection in the DNS" (dnsext-rfc2672bis-dname)
- "Use of SHA-2 algorithms with RSA in DNSKEY and RRSIG Resource Records for DNSSEC" (dnsext-dnssec-rsasha256)
- "DNS Zone Transfer Protocol (AXFR)" (dnsext-axfr-clarify)
- "Deprecation of HMAC-MD5 in DNS TSIG and TKEY Resource Records" (dnsext-tsig-md5-deprecated)

Recent RFCs:

- "Measures for Making DNS More Resilient against Forged Answers " (RFC 5452)



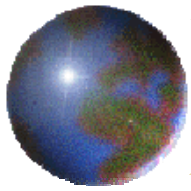
Operational Security Capabilities for IP Networks (OPSEC)

Active Documents

- “Security Best Practices Efforts and Documents” (draft-ietf-opsec-efforts)
- “Remote Triggered Black Hole filtering with uRPF” (draft-ietf-opsec-blackhole-urpf-03)
- “Security Assessment of the Internet Protocol version 4” (draft-ietf-opsec-ip-security)
- “Issues with existing Cryptographic Protection Methods for Routing” (draft-ietf-opsec-routing-protocols-crypto-issues)

Expired (status unclear)

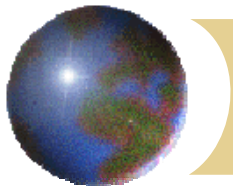
- “Recommendations for filtering ICMP messages” (draft-ietf-opsec-icmp-filtering)



Global Routing Operations (GROW)

Active Documents:

- "MRT routing information export format" (grow-mrt)
- "BGP Monitoring Protocol" (grow-bmp)
- "Routing System Stability" (grow-rss)



New WG Activity

Newly Created

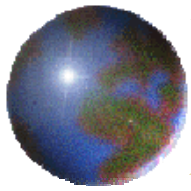
locator/identifier separation(LISP)

- New Internet architecture combining two functions, routing locators and identifiers.
- Email group is lisp@ietf.org

Proposed WG

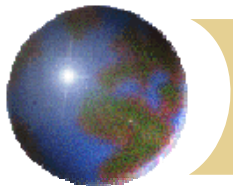
IPv6 Address Independence BOF held in San Francisco:

- Should IETF form WG to standardize IPv6 version of NAT?
- SF meeting: no consensus to do IPv6 NAT, but belief that doing nothing also not acceptable.
- Will continue discussing problem and requirements more



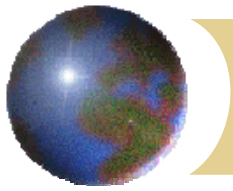
Stockholm IETF

- ✿ Next IETF: July 26 –31, Stockholm, Sweden
- ✿ IETF BOF WIKI summarizes recent and upcoming BOF activities:
 - <http://tools.ietf.org/bof/trac/wiki>
 - Includes (early) topics that might (or might not) eventually result in official BOFs
- ✿ Officially approved BOFs (once known):
 - Performance Metrics for Other Layers BOF
 - <http://tools.ietf.org/agenda/75>



References

- ❖ General WG info:
 - ❑ <http://tools.ietf.org/wg>
 - ❑ <http://tools.ietf.org/wg/foo> (for WG "foo")?
- ❖ Internet Drafts:
 - ❑ <http://tools.ietf.org/html>
- ❖ Upcoming meeting agenda:
 - ❑ <http://tools.ietf.org/agenda>
- ❖ Upcoming BOFs Wiki:
 - ❑ <http://tools.ietf.org/bof/trac/wiki>



Thank you

Questions?