MDHCP Open Issues Discussion

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Charter Items

- Dec 98: Meet at Orlando IETF. Review and finalize the host-server protocol.
- Jan 99: Submit the host-server protocol to the IESG for consideration as a Proposed Standard.

List of Open Issues (Outline)

- Reserved fields in header
- One-byte option length
- Allocation Scope referenced but not defined
- Security
- IPv6 support
- Other issues?

Code Re-use Informal Poll

- Steve Hanna posed three questions to DHCP mailing list
- Implementors of 5 DHCP implementions responded:
  - Thanks to: Lucent, Microsoft, Pac Bell, Sun, and Vixie (ISC)

Code Re-use Poll Results

- Do you think that you might implement an MDHCP client or server?
  - 3 yes, 1 will accept mods, 1 if there is demand
- Would you attempt to share code with your DHCP client or server?
  - 3 yes, 1 maybe/don’t know, 1 very little
- Should protocol similarity be maintained?
  - 3 yes, 1 no opinion, 1 do what’s best

#1: Reserved fields in header

- 208 of 228 extra bytes already removed without loss of parsing code reusability
- Issue: there are 20 reserved bytes left in header
- DHCP fields are: op (1), htype (1), hlen (1), hops (1), secs (2), flags (2), ciaddr (4), siaddr (4), giaddr(4)

#2: One-byte option length

- DHCP spec uses multiple option occurrences to continue
- Causes continuations for scope list in INFORM, and potentially for large address block list in ACK.
- draft-ietf-dhc-option_review_and_namespace-00.txt proposes support for large options
- Such support would be in a future version of DHCP.

#3: Allocation Scope referenced but not defined

- Draft-01 says to first look for server inside desired scope to allocate address, then allows looking in a larger “Allocation Scope”
- Problems:
  - Server in larger scope must be aware of topology
  - Allocation scope is not well-defined

Proposed action

- Just remove mention of allocation scope
- Deployment requirement is then:
  - Must have MAAS inside any scope in which you want to allocate addresses

#4: Security

- Goal is controlling access to limited resources
- Problem is easier than for DHCP, since you have a unicast IP address
- Multicast messages: INFORM, DISCOVER, REQUEST
- Unicast messages: OFFER, ACK, NACK, REQUEST

Security (cont.)

- Unicast messages could use existing security protocols (next slide)
- INFORM need not(?) be secured (used to **request** scope list)
- Proposal is to not secure DISCOVER and multicast REQUEST (secure server would refuse to answer them)

IPsec or TLS or other?

- MDHCP wants user-based security for UDP
- Many IPsec implementations are host-based, over IP
  - User-based IPsec is immature
  - Often requires OS-level changes
- TLS is user-based over TCP

#5: IPv6 Support

- There is a DHCPv6 protocol soon to go to last call (draft-ietf-dhc-dhcpv6-13.txt)
- Two possibilities:
  - Extend MDHCP(v4) to accommodate IPv6 addresses
  - Extend DHCPv6 to accommodate multicast addresses
- MDHCP authors propose the former (add address family to MDHCP options)

#6: Other issues?

Wrap-up

- Authors will update MDHCP spec by Jan 99
- WG last call

- Will we need to work on a MDHCPv2?