AMT Spec Status
draft-ietf-mboned-auto-multicast-07

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Status

- Last draft dated November 2006
- Just expired, needs to be refreshed
- 8 spec issues found when upgrading implementation from -05 to -07

1) MAC generation requirements

- No guidance on the minimum requirements for MAC generation.
- "One algorithm that could be used is HMAC-MD5-48 [RFC2104]."
- If one always used a constant value of 0, one could claim compliance.
- Should we have a minimum bar or just leave it as is?
- If minimum bar, what?

2) When is Discovery msg sent

- Spec is contradictory as to when the AMT Relay Discovery message is sent by a gateway.

- Section 5.1.3 says it's sent when a join is received and it has no state.

- Section 7.1 says it's done at startup time, and then periodically thereafter.

- Propose that both behaviors should be legal.

3) Relay Discovery Synchronization

- Section 7.1 also states, regarding relay discovery:

    > This discovery SHOULD be done periodically (e.g., once a
    > day) to re-resolve the unicast address of a close relay.

- I think this needs to introduce some randomization in the timer, to avoid synchronized queries. You don't want all gateways to be probing the relay at exactly the same time every day.

- Dino's implementation jitters it by a random interval from 0 to 10% of the timer.

4) Lifetime of Response MAC

- Spec is contradictory as to whether a triggered report requires sending an AMT Request first or not, when one has gotten an AMT Query at some point in the past. Section 7.3 implies it doesn't. Section 5.1.3 (5th bullet) implies it does.

- **How long is the Response MAC received in an AMT Membership Query valid?**

- Section 5.1.2 implies it's constant as long as the gateway's address, port, and nonce stay constant, and as long as the relay's "secret key" doesn't change.

- An IGMP Query can result in multiple IGMP Reports being sent by the gateway in response, so the Response MAC has to be reusable across multiple AMT Update messages sent in response to the same AMT Query.

- Propose: Response MAC can be reused in triggered reports too
  - A triggered report does NOT require sending an AMT Request if you already have a Response MAC from an earlier AMT Membership Query.

5) Lifetime of secret key

- How often can the "secret key" change?
  - If never, then once a host has been at a given IP address, and then moves away to somewhere which doesn't prevent spoofing, that host could forever after DOS that IP address.

- Proposal:
  - MUST change the secret key periodically, but
  - MUST continue to accept AMT Membership Updates for at least 1 QueryInterval time afterwards that have a Response MAC that's valid with the previous key.

6) AMT Prefix Length

- Sections 9.2.1 and 7.2.1 are contradictory as to the prefix length requested.
- 7.2.1 says 16, and 9.2.1 says 18.
  - 16 is much easier for diagnosability.
  - 18 is probably easier to get.
- Similarly sections 9.2.2 and 7.2.2 are contradictory as well for IPv6.

7) Tuning rates of gateways (editorial only)

Section 7.3:

> If the gateway is behind a firewall device, the firewall may require
> the gateway to periodically refresh the UDP state in the firewall at
> a shorter interval than the standard IGMP/MLD Query interval.
> Therefore, this IGMP/MLD Query interval **should be configurable** to
> ensure the firewall does not revert to blocking the UDP encapsulated
> IP Multicast data packets.

Section 8.3:

> **If a relay wants to affect the rate at which the AMT Requests are**
> **originated** from a gateway, it can tune the membership timeout by
> adjusting the Querier's Query Interval Code (QQIC) field in the IGMP/
> MLD Query contained within the AMT Membership Query message.

- Propose 8.3 should say one can only tune the rate of gateways which don't have a configured period as specified in 7.3.

8) Remove obsolete text (editorial only)

- A previous version of AMT said the gateway did periodic reports by internally manufacturing queries to deliver up to the local IGMP/MLD client.

- This was then changed to use periodic Requests which result in getting the queries from the AMT relay

- Section 7.1 contains obsolete text regarding the gateway periodically sending reports based on a timer

- Section 7.3 contains obsolete text regarding the gateway periodically manufacturing queries based on a timer.

- The text needs to be updated to match the newer mechanism used in the rest of the draft.