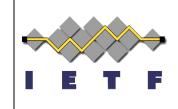
KARP WG

Protocol Independent Multicast-Sparse Mode (PIM-SM) Gap Analysis



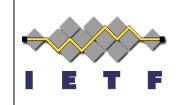
on behalf of Manav Bhatia, Alcatel-Lucent IETF 81, Quebec City

Current State of Security



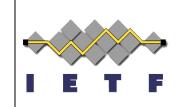
- RFC 5796 describes how IPsec can be used to authenticate PIM-SM link local messages using ESP or optionally AH
- Mandates the use of manual keying as no automated key management currently exists that can be used





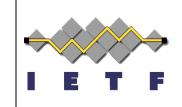
- Since it uses manual keying, no interconnection and intra-connection replay protection mechanisms used
- Multiple PIM routers can exist on a link and setting up IPsec security associations manually is tedious
- Not all platforms support IPsec and few require an extra license for using IPsec





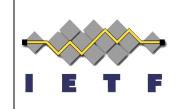
- Because of operational complexity and license issues nobody is using IPsec to protect PIM-SM
- Most major vendors don't support IPsec protection for PIM
- Other issues detailed in the draft

So, what does the draft propose (1/2)



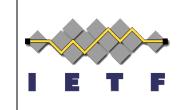
- In order to encourage deployment of PIM security we must provide an alternate authentication mechanism
- This will be similar to what was done for OSPFv3, where an Authentication Trailer is appended to the OSPFv3 packet, instead of relying on IPsec (as few folks were deploying that)

So, what does the draft propose (2/2)



- As part of KARP design guide phase 1, provide an authentication mechanism that uses manual keying
- Solution MUST provide inter and intra replay protection
- Solution MUST work for unicast and multicast PIM exchanges

Next Steps



- Currently only covers PIM-SM. It should be updated to include other flavors as well.
- Take this as the starting point for PIM gap analysis which falls within KARP WG's charter
- More discussion on the KARP and PIM mailing lists