OSPF and MANET WG meetings, IETF64

OSPF MANET Design Team outbrief

November, 2005

Tom Henderson

{thomas.r.henderson@boeing.com}

Design team members:

Emmanuel Baccelli, Madhavi Chandra, Thomas Clausen, Padma Pillay-Esnault, David Green, Acee Lindem, Joe Macker, Richard Ogier, Tony Przygienda, Abhay Roy, Phil Spagnolo

1



MANET and OSPF

- A Mobile Ad Hoc Network (MANET) is a wireless network operating in absence of (much) fixed infrastructure
 - multi-hop, time-varying wireless channels
- MANET WG produced four Experimental RFCs – none integrated with a commercial IGP
- Why MANET and OSPF?
 - Interest in using MANETs in transit network scenarios (requiring redistribution)
 - Layer-2 MANET routing/bridging not always possible or optimal

3



5

Initial problem statement

- 1. Focus on OSPFv3 and not OSPFv2
- 2. Compatibility with non-wireless OSPFv3
- 3. Intra-area extensions only
- 4. Not focusing on transit network case, but should not be precluded
- 5. Scaling goal is 50-100 nodes on wireless channel
- 6. Leverage existing MANET work where possible
- 7. Use RFC 3668 guidance on dealing with IPR claims







Overview of different approaches

- Both drafts focus on selecting more efficient Relay Node Sets (RNS) for flooding
 - A "Connected Dominating Set" (CDS)
- Both approaches perform topology reduction
 - MANET Designated Routers uses the CDS
 - Overlapping Relays via Smart Peering extension
- Differences
 - Source Independent vs. Source Dependent CDS
 - Use of Hellos or LSAs for dissemination of twohop neighborhood information
 - Differential (Incremental) Hello implementations



















Links

- Design Team software and Boeing technical report:
 - http://hipserver.mct.phantomworks.org/ietf/ospf/
- OSPF WG mailing list:
 - http://www.ietf.org/html.charters/ospf-charter.html

19