Autoconf via XREQ/XREP

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Scenarios – gateway or

• A manet can be standalone (no Internet g/w)
• If a gateway exists, manet nodes may try to get a topologically correct global address (or NATted address)
• If gateway exists, it sends occasional beacons
• Gateways can come and go
Want an address? Just ask!

• A node gets an address by requesting it.
• Tricky: for routability of the request packet, the node already needs an address
• Solution: pick a random address to use for some number of milliseconds
• For IPv6, this is great – short least time
Standalone

• Node doesn’t receive any beacon, so it picks a random address in a preallocated range (perhaps subnet of MANET_LOCAL prefix)
• Floods XREQ. If XREP arrives, the address is taken and the node must try again
• Even if node misses hearing a beacon
Gateway operation

• If node hears a beacon, pick random temporary address in subrange of the advertised prefix and unicast a XREQ to the gateway.
• Node can also unicast a XREQ to the gateway with temporary address in subrange of MANET_LOCAL, if it does not want global address
• Multiple gateways are possible – node
Mobile IP

• Natural model for support if gateway exists – use locally allocated address as care-of address.

• If home agent is in the MANET, more fun – but the node acts as if it is on the home network so just have to tweak business about gratuitous ARP and so on.
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