NEMO WG Status, Hot Topics and Recharteinge

NEMO additional page
http://www.mobilenetworks.org/nemo
thierry.ernst@inria.fr
66th IETF,
Montreal, Canada11th July 2006
18:50-19:50
66th IETF - NEMO WG Agenda

• Welcome, Agenda Bashing .................. 05mins
• NEMO WG Documents Status .......... 10mins
• Recent Discussions on the ML .........
  – Deployment Requirements .............. 10mins
  – IPv4 Network Mobility ................... 05mins
  – IPv4/NAT Traversal Scenarios ........ 10mins
  – Rechartering Items ....................... 20mins
NEMO WG Document Status
NEMO Basic Support
- RFC 3963 Standards track (Jan.05)
- Implementations available
  - e.g. Linux 2.6 (NEPL) and BSD (Shisa)
  - http://www.nautilus6.org/implementation
- Commercial products exist
- Considered in the CALM architecture for ITS communications
  - cf ISO TC 204 WG 16 and 63th IETF NEMO WG proceedings
    - http://www3.ietf.org/proceedings/05aug/index.html
  - http://www.calm.hu
66th IETF - NEMO WG Status

• NEMO Home Network Models
  – draft-ietf-nemo-home-network-models-06.txt (Feb.06)
  – Companion document on 'usages'
  – RFC Editor Queue

• NEMO Management Information Base
  – draft-ietf-nemo-mib-01.txt (Jul.05)
  – New version (probably last) expected shortly
66th IETF - NEMO WG Status

• NEMO Support Terminology
  – draft-ietf-nemo-terminology-05.txt (Mar.06)
  – Passed NEMO WG Last Call.
  – Remaining inconsistency with Home Network Models, updated version to be shipped to IESG.

• NEMO Support Requirements
  – draft-ietf-nemo-terminology-05.txt (Oct.05)
  – Passed NEMO WG Last Call. To be shipped to IESG.
66th IETF - NEMO WG Status

• NEMO RO Problem Statement
  – 2 WG drafts
  – Draft-ietf-nemo-ro-problem-statement-02 (Dec.05)
  – Draft-ietf-nemo-ro-space-analysis-02 (Feb.06)
  – Passed NEMO WG Last Call
  – To be sent to IESG shortly
66th IETF - NEMO WG Status

• Analysis of Multihoming in Network Mobility Support
  – draft-ietf-nemo-multihoming-issues-06.txt (Jun.06)
  – Issue List
    http://www.mobilenetworks.org/nemo/draft-ietf-nemo-multihoming-issues/
  – NEMO WG Last Call to be issued
  – Any concern ?
66th IETF - NEMO WG Status

• NEMO Prefix Delegation
  – 2 WG drafts
    • draft-ietf-nemo-dhcpv6-pd-01 (Mar. 06)
    • draft-ietf-nemo-prefix-delegation-00 (Aug. 05)
    • Authors are considering merging the 2 drafts
  – Draft(s) must be updated to take into account multihoming considerations
    • cf draft-ietf-nemo-multihoming-issues
  – Not enough comments have been expressed on the ML so far, or not reasonably well taken into account
    • Some people have expressed concerns that the documents where accepted as WG without enough prior discussion
66th IETF - NEMO WG Status

• IPv4 and NAT Traversal
  – DSMIPv6: draft-ietf-mip6-nemo-v4-traversal-02 (Jun.06)
  – Design Team: mip6trans
  – Both MIP6 WG and NEMO WG doc
    • linked from the MIP6 WG page only due to technical reasons.

• IPv4 Basic Support
  – draft-ietf-nemo-v4-base-01 (Jun.06)
  – Informational draft
  – Seems ready for WGLC
Recent Discussions on the ML: NEMO Basic Support (RFC 3963) Deployment Requirements
Deployment Requirements

• Was proposed to add a section in draft-ietf-nemo-requirements
  – AD & Chairs decided to ship draft-ietf-nemo-requirements right away to the IETF.

• General requirements and industry specific requirements

• Individual submissions expected for industry-specific req.

• Note that deployment requirements may involve other WGs (e.g. IPv6, Mipshop)
Deployment Requirements

• Aviation industry: Internet access for passengers and traffic control
  – Worldwide sites, NEMOs moving in between
  – cf Connexion by Boeing (presentation during IAB plenary Mar.2005) and discussion on the ML
  – Req:
    • RO
    • Multiple ISPs and Navigation Service Providers
    • Air control traffic separated from passengers' traffic
    • Global HAHA
Deployment Requirements

• Car industry: remote monitoring, navigation, and emergency calls
  – Communications vehicle-infrastructure and vehicle-vehicle
    • cf ISO's CALM, C2CCC, CVIS, SafeSpot, ...
  – Safety
  – Reliability
  – QoS requirements
    • RO between the NEMO and the access network
    • Fast Horizontal Handovers (with RFC 3963)
    • Resource Reservation for MNNs
  – Vertical handovers
Deployment Requirements

• Public transport industry: Internet access for passengers
  – No specific need for reliability and safety
  – Billing and access control: AAA (Diameter)
  – Nested NEMO
Recent Discussions on the ML: IPv4 Network Mobility
IPv4 Network Mobility Reminder

- WG initially proposed to work on IPv6 only (cf MONET BOF in Mar.02)
- Limited set of people said they would work on IPv4 (so, it was added in the charter) but didn't
- No input until 2005
- Sudden request to accept a standard for IPv4 network mobility
- Was finally accepted as a WG doc provided:
  - Requestors commit to produce the document
  - This incurs minimum work load to the NEMO WG
  - The document is informational
  - This would be the only document
IPv4 Network Mobility - Next

• Questions whether work on IPv4 is considered useful or not at the IETF

• Questions about where this should be done at the IETF, if work on IPv4 is appropriate
  – NEMO WG originally set up to work on IPv6 (see previous slide), and must focus on RFC 3963 deployments and improvements.
  – Working on IPv4 and IPv6 in the same WG is confusing (this is why former MobileIP WG was split into MIP4 and MIP6
  – MIP4 chairs seem to favor work been done in their group (provided the work is needed)

• Better approach might be to support IPv4 mobile subnets using IPv6 mobility support

• Relation/redundancy between draft-ietf-mip6-nemo-v4-traversal and plain IPv4 work
Recent Discussions on the ML: NEMO WG Recharter
NEMO WG Rechartering

• Should this be happening now, or later once we get input on deployment requirements?
  – Conclusion: Recharter now with an updated charter
NEMO WG Rechartering

• Charter updated since IETF 65\textsuperscript{th} Dallas
  – http://www.mobilenetworks.org/nemo/charter2_2.txt
  – Still a draft version
  – Comment: charter must be more specific on which exact work to be done on multihoming and RO
NEMO WG Rechartering - RO

– Next steps: slides “RO next steps” at 63rd IETF
– RO Pb well understood
  • draft-ietf-nemo-ro-pb-statement
  • draft-ietf-nemo-ro-space-analysis
  • RO slides 63rd IETF
– RO Needs not well understood
  • define use cases => deliverable (deployment requirements ?)
  • Standardize 2 or 3 drafts as experimental
    – Limited to bidirectional tunneling based solutions which utilize MIP signaling
    – Investigate possible RO extensions to add to HMIPv6 (currently under revisions in the MIPSHOP WG)
NEMO WG Rechartering

• Fault Tolerance
  – When MR-HA link is affected
  – Failures on that link are much more likely to occur
  – Somewhat related to “Ingress Filtering” in the (n,n,n) case
    • the solution for fault tolerance can solve the ingress filtering problem
    • Discussed on the ML in 2006-Apr-05
  – Solution could be based on Appendix B from draft-ietf-nemo-multihoming-issues
NEMO WG Rechartering

• Deployment Requirements
  – Gathering deployment requirements is necessary before an in-depth rechartering of the NEMO WG (for the long run)
  – Could be a WG item to gather the req.
    • include a deliverable on use cases & deployment requirements

• Global HAHA for RO and multihoming
NEMO WG Rechartering

• Misc
  – RFC 3963 revision needed?
  – Loop Prevention
    • cf draft-ietf-nemo-multihoming-issues
  – MANEMO work?