

# Mobility Management using Proxy- MIPv4 and Radius Mobility Extensions

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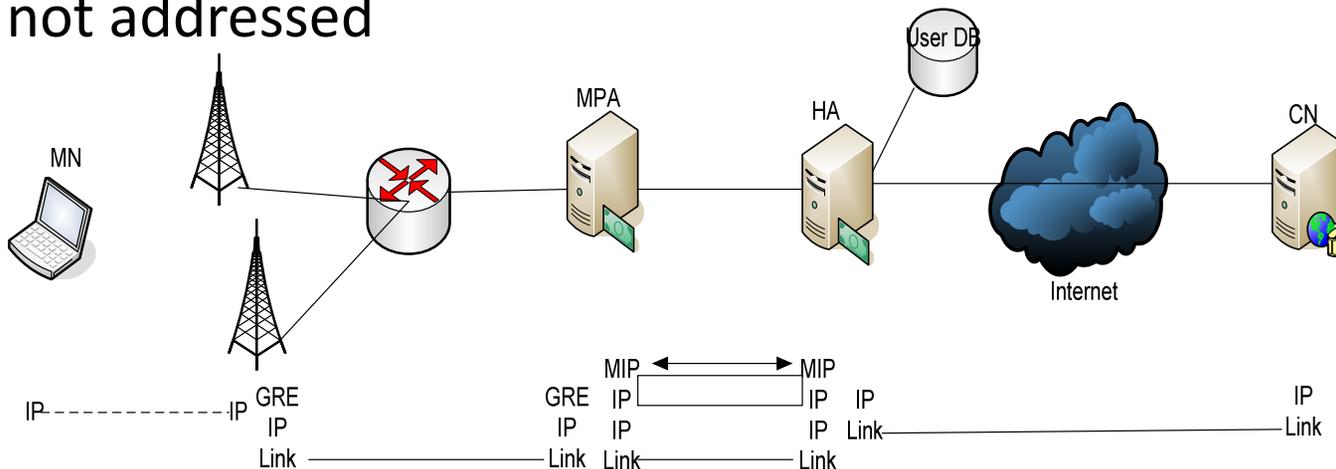
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# Overview

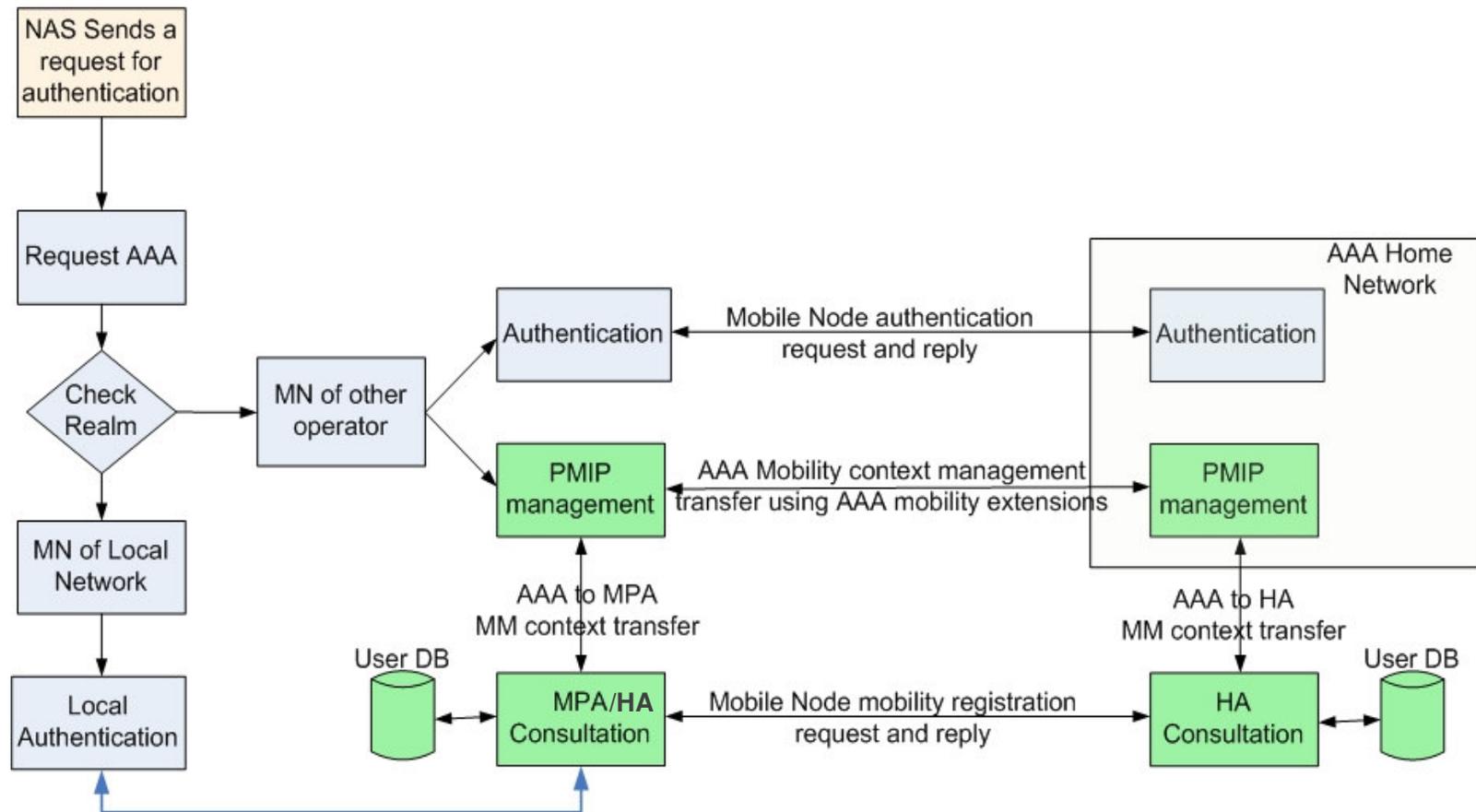
- Proxy Mobile IPv4
- Novel Mobility Architecture using PMIP and AAA mobility extensions
- PMIP operation
- AAA mobility extensions
- Mobility Management using the proposed architecture

# Proxy Mobile IP

- Mobility Management of the user on the network side
- MPA and HA of the PMIP does the registration for the user and route the traffic to the user terminal
- Issues of “user ID, user movement in access networks, user details for MPA during registration, multihoming, IP address allocation to user in visiting networks, registration revocation” are not addressed



# Novel Architecture using PMIP and AAA mobility extensions



# Radius Mobility Extensions

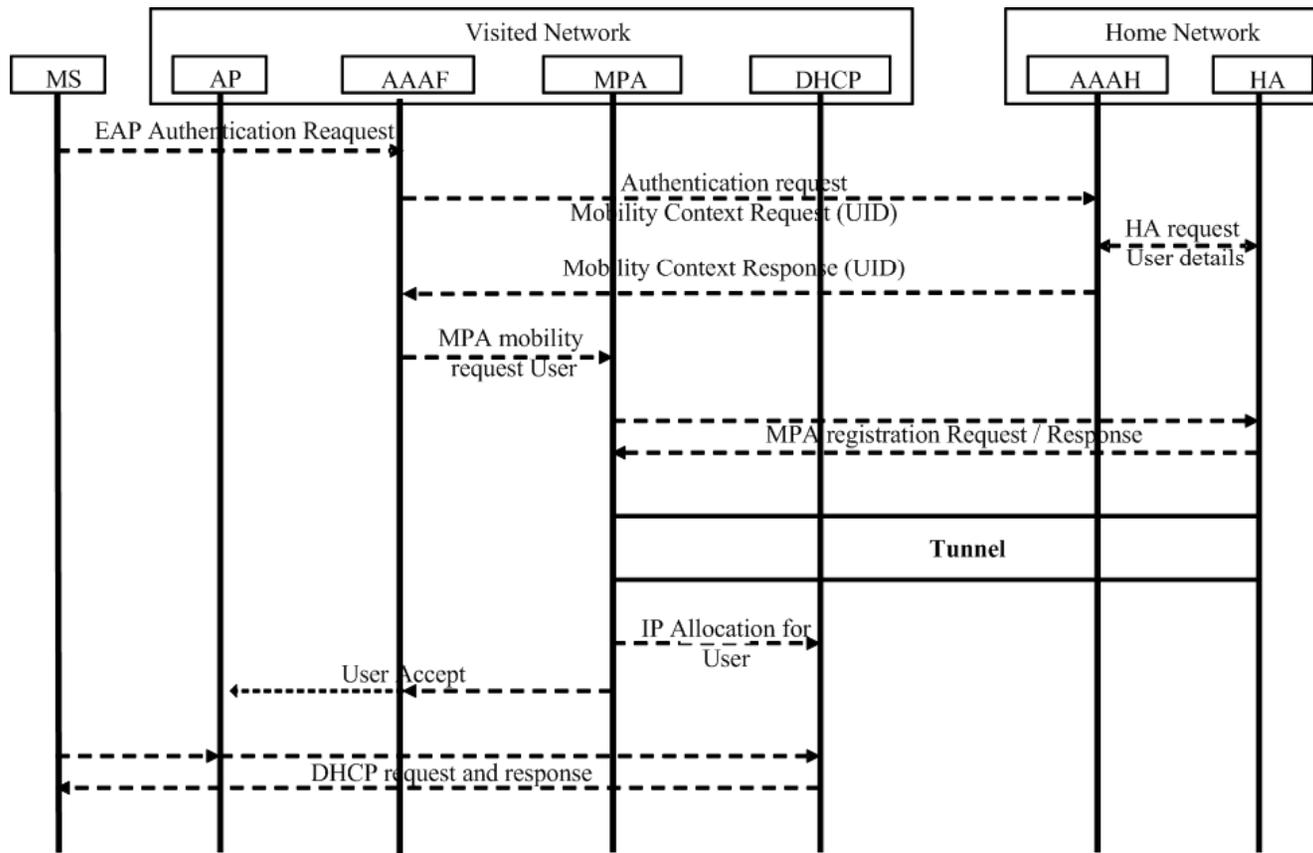
- AAAH and AAAF
  - NAS sends a request for authentication to AAAF
  - AAAF checks the Realm of the user and process the NAS request
  - Sends a mobility context request to the AAAF parallel with the authentication request to the AAAH
  - AAAH responds with the user details for mobility to the AAAF
- AAAH consultation with HA
  - When the mobility registration request from the AAAF, AAAH sends a request for mobility details of the user to the HA.
  - Upon receiving user details from HA, AAAH sends response to AAAF with the details from HA.
  - When the user belongs to the home network it sends the registration revocation to HA
- AAAF consultation with MPA
  - After receiving response from AAAH the AAAF sends the registration request with user details to MPA.
  - After receiving response from the MPA, if the registration is success the AAAF provides access to user terminal in the access network or else it rejects access to user.

# PMIP with Radius Mobility Extensions

- HA
  - HA receives two types of request from the AAAH, one is user context details and the other is registration revocation
  - On the first request HA sends a response when there is a request from AAAH with the user details collected from its database
  - On the second request HA will clear the user cache and sends MIPv4 registration revocation to MPA which the user is connected before.
  - Does the registration when there is a MIPv4 registration request for the user from MPA.
- MPA
  - Collects the details from AAAF mobility registration request
  - Does the mobility registration with HA with the user details from AAAF
  - Sends the user details like home address to DHCP server
  - Sends a mobility registration success or failure to AAAF

# Mobility Management

- Mobility registration
- Registration Revocation



## Being at Home Network

- NAS sends an authentication request to the home AAA server
- AAAH sends registration revocation to HA
- HA initiating the Registration Revocation
  - Erases the MN entry from the mobility registration database
  - Sends a MIPv4 registration revocation message to MPA

(Note: Mobility Context Request – AAAH send a HA consultation message in order to get information of the MN.

Mobility Access request – AAAH sends a registration revocation to HA)

## Other Issues

- Multihoming
- Address Allocation (DHCP / Radius IP allocation)
- Routing Issues (Proxy ARP)
- Security Considerations
- IANA Considerations
- Packet formats, codes.

# Questions ...