

# **MEXT WG IETF-71**

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## **Binding Revocation for IPv6 Mobility**



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# OUTLINE

- IPv6 Mobility Session Identification
- Binding Revocation Entities
- Binding Revocation Messages Format
- Revocation Message Flow
- Use Cases, Entities Actions
- Binding Revocation Security
- Questions & Comments?

# IPv6 Mobility Session ID

- Mobile IPv6:
  - HoA,
  - MNP
- Proxy MIPv6:
  - NAI + HNP
- Multiple CoA:
  - HoA + (\*) BID
  - HNP + BID
- Bulk Revocation:
  - NAI with realm [\\*@abc.com](#), or HNP
  - LMA Identity, LMA Address
  - MAG Identity, MAG Address

# Binding Revocation Entities

- HA  $\rightarrow$  MN/MR (Client MIP6 session)
- LMA  $\leftrightarrow$  MAG (PMIPv6 session)
- MAP  $\rightarrow$  MN (HMIPv6 session)

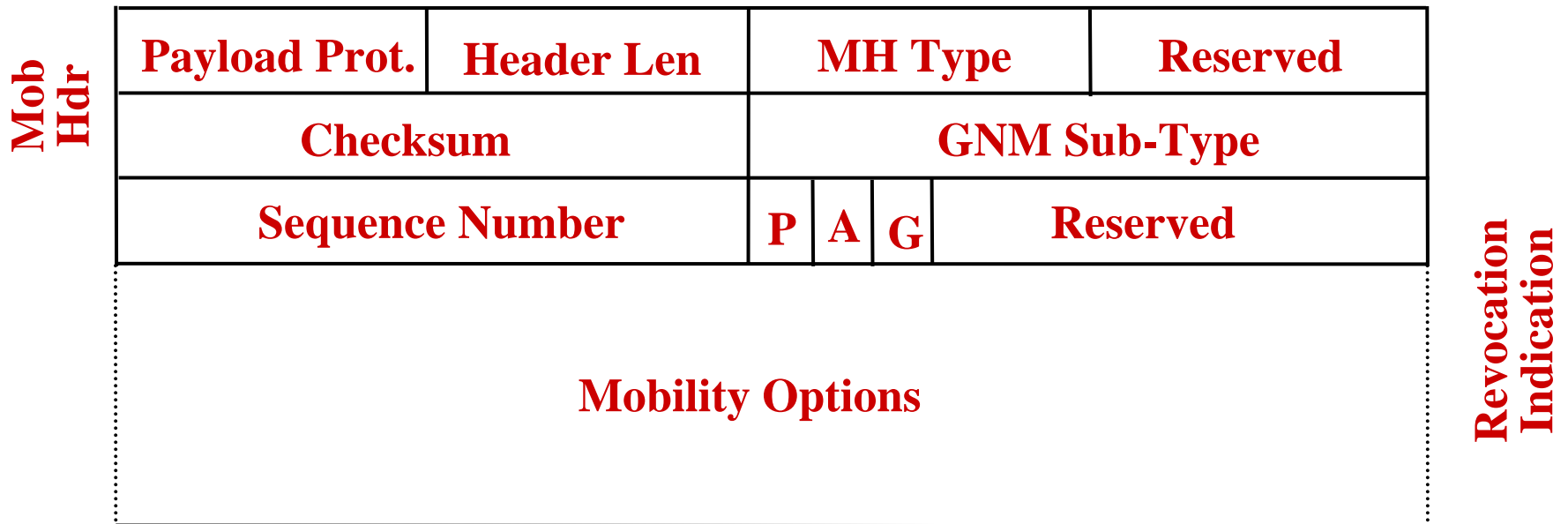
## Binding Revocation Messages Format

- Using a Mobility Header with a new MH Types.
- Using a Generic Notification Message Subtype Header

# Binding Revocation Message Format



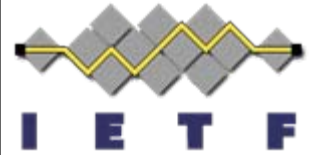
## – Binding Revocation Indication:



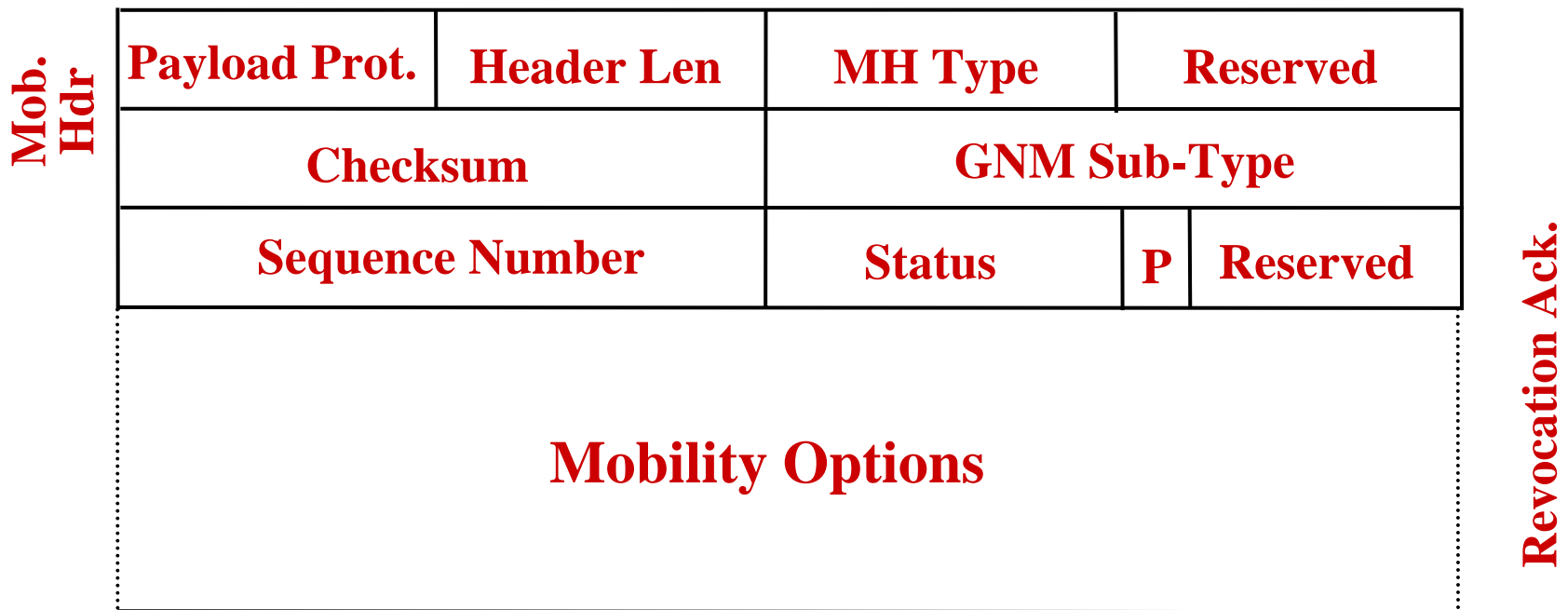
**MH Type =** Generic Notification Message (TBD)

**GNM Sub-Type:** Binding Revocation Indication (TBD)

# Binding Revocation Message Format

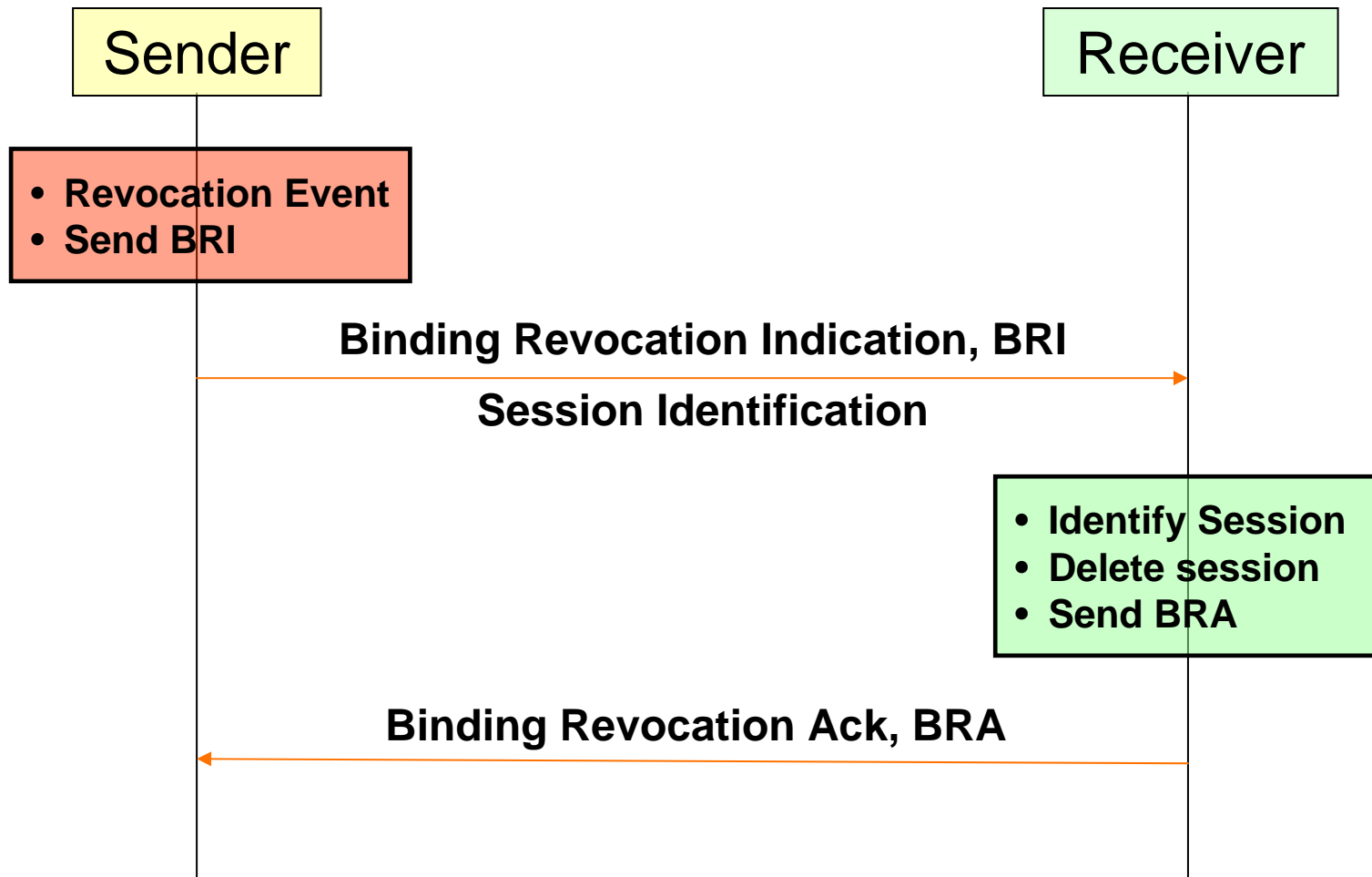


## – Binding Revocation Ack:



**MH Type =** Generic Notification Message (TBD)  
**GNM Sub-Type:** Binding Revocation Ack. (TBD)

# Binding Revocation Message Flow

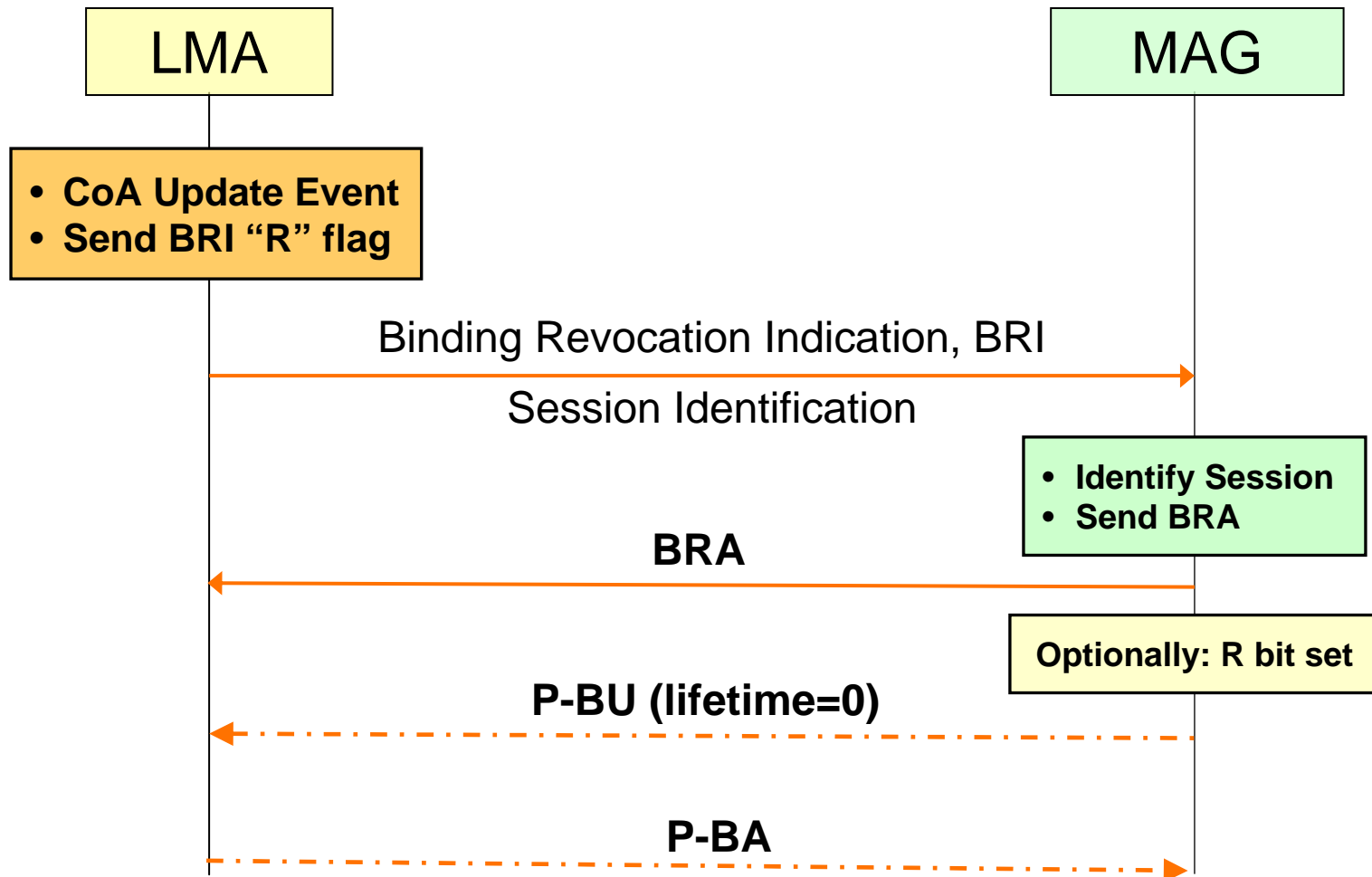


# Use Cases, Entities Actions



- HA revokes a MN session using MIPv6 session ID.
- HA revokes one or more of MN Multi-CoA Bindings.
- MAP revokes a MN session using HMIPv6 session ID.
- HA Inform a MR of a MNP sessions Revocation.
- LMA inform MAG of a MN session termination.
- LMA inform MAG of a MN session CoA update.
- Bulk Revocation:
  - **LMA** Inform MAG of termination of all associated sessions.
  - **LMA** Inform MAG of termination of certain realm sessions.
  - **MAG** inform LMA of termination of all associated sessions.

# Binding Revocation in PMIPv6



# Binding Revocation Security



- No security concern since Binding Revocation signaling uses the same SA that was used by the Mobility signaling.
- Revoking entity uses the same security association that was used during the session registration:
  - HA uses the same IPsec session that was used during the MN Client MIP6 registration, e.g. IPsec SA.
  - Similarly, MAP uses the same IPsec session that was used during the MN HMIP6 registration.
  - LMA uses the same IPsec SA that was used to establish a PMIP session with a specific MAG.
- Special Authorization is needed for Bulk Revocation.

# Questions & Comments?

