

802.16g Reference Models and Network Architecture

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Maged Zaki & Brian G. Kiernan
InterDigital communications Corp
781 Third Avenue, King of Prussia, PA, 19406, United States

Voice: (610) 878-5637

<mailto:brian.kiernan@Interdigital.com>

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Purpose:

This is a response to a Call for Contributions on IEEE P802.16g

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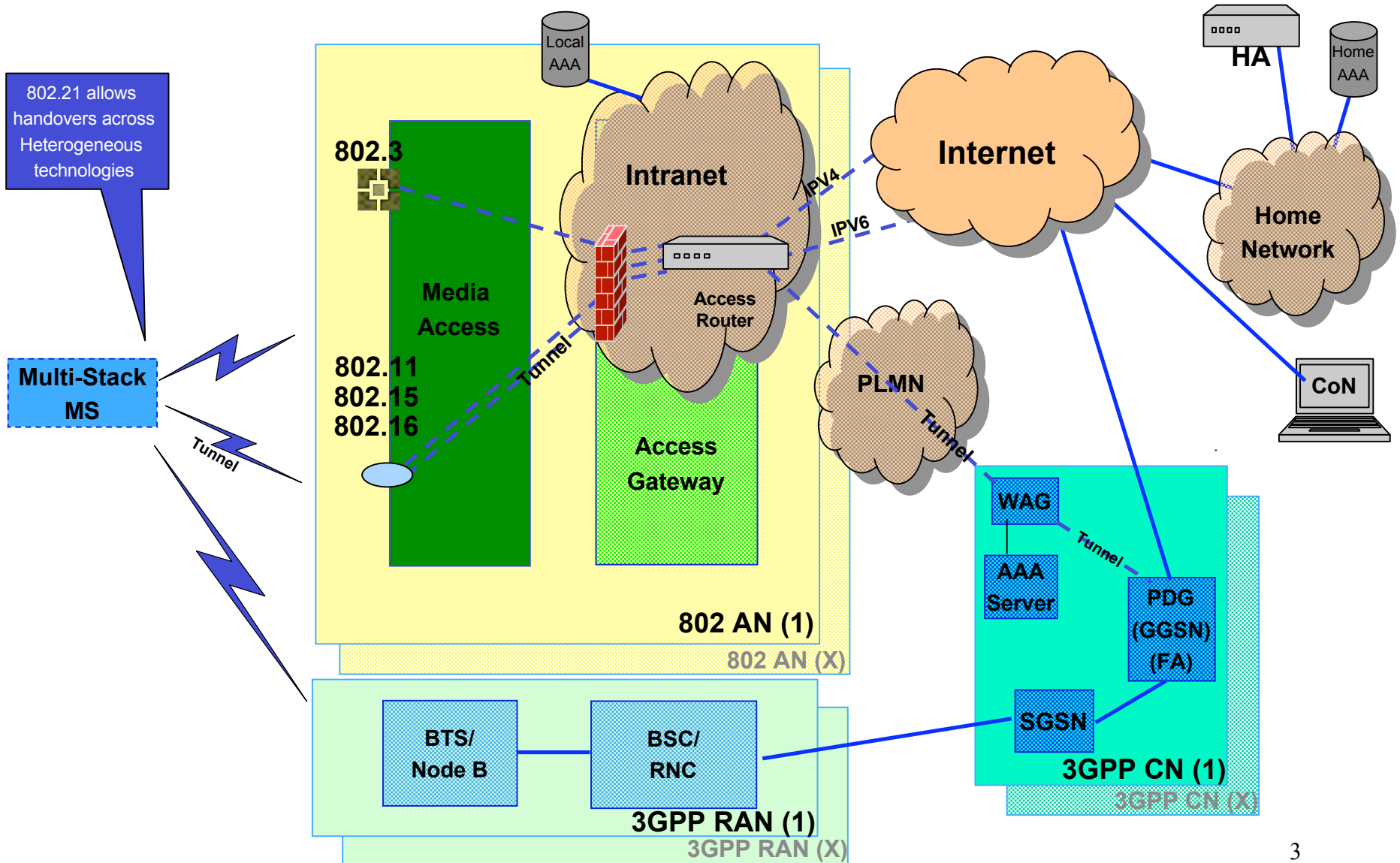
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Outline

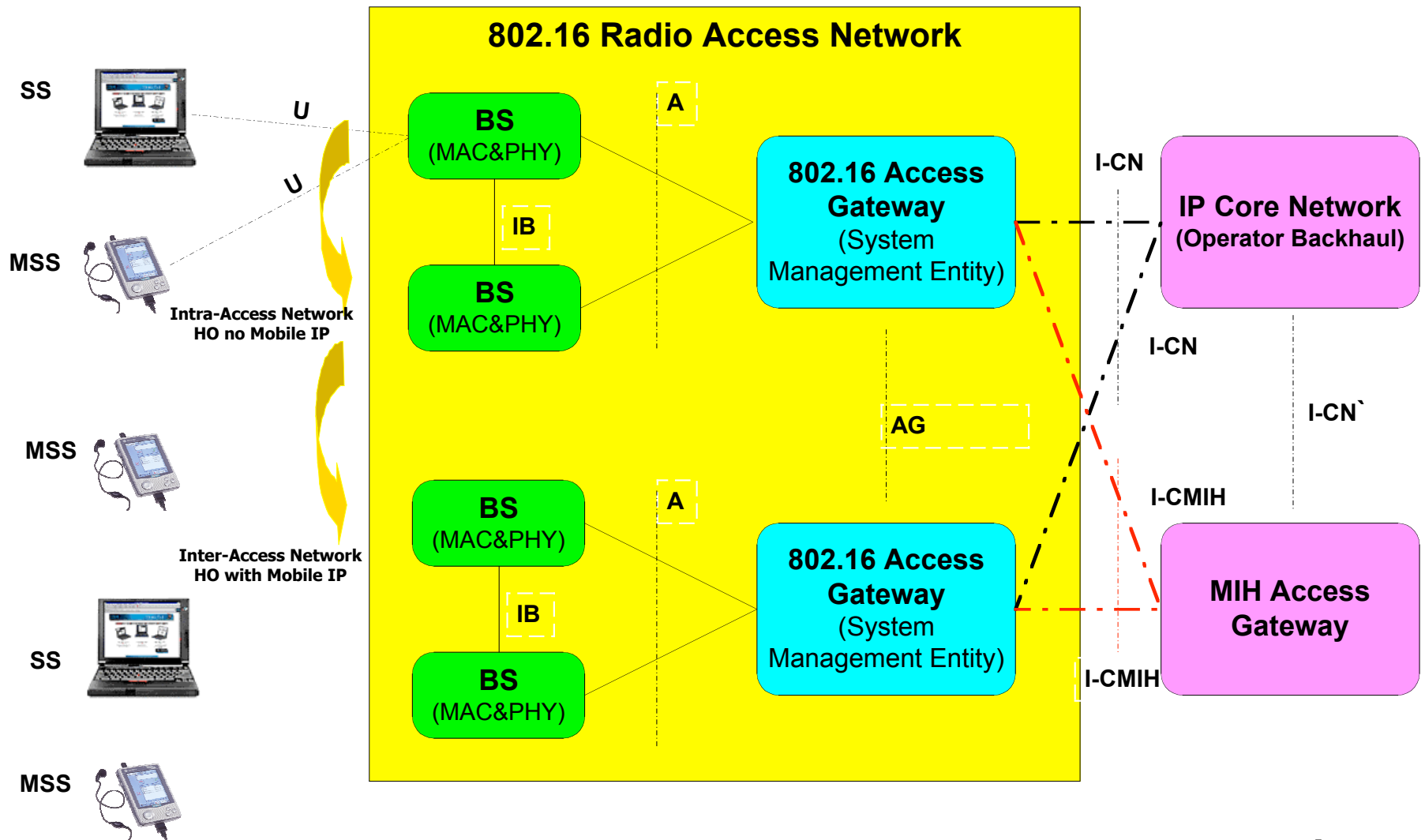
- Network Architecture
 - Proposed 802.21 Logical Network Architecture
 - 802.16 Logical Network Architecture Options
 - 802.16 Physical Network Architecture Options
- Reference Models
 - Proposed 802.21 Reference Model
 - Proposed 802.21 MIH Management Plane
 - 802.16g Handover Management Plane
 - 802.16g Reference Model

Proposed 802.21 Logical Network Architecture

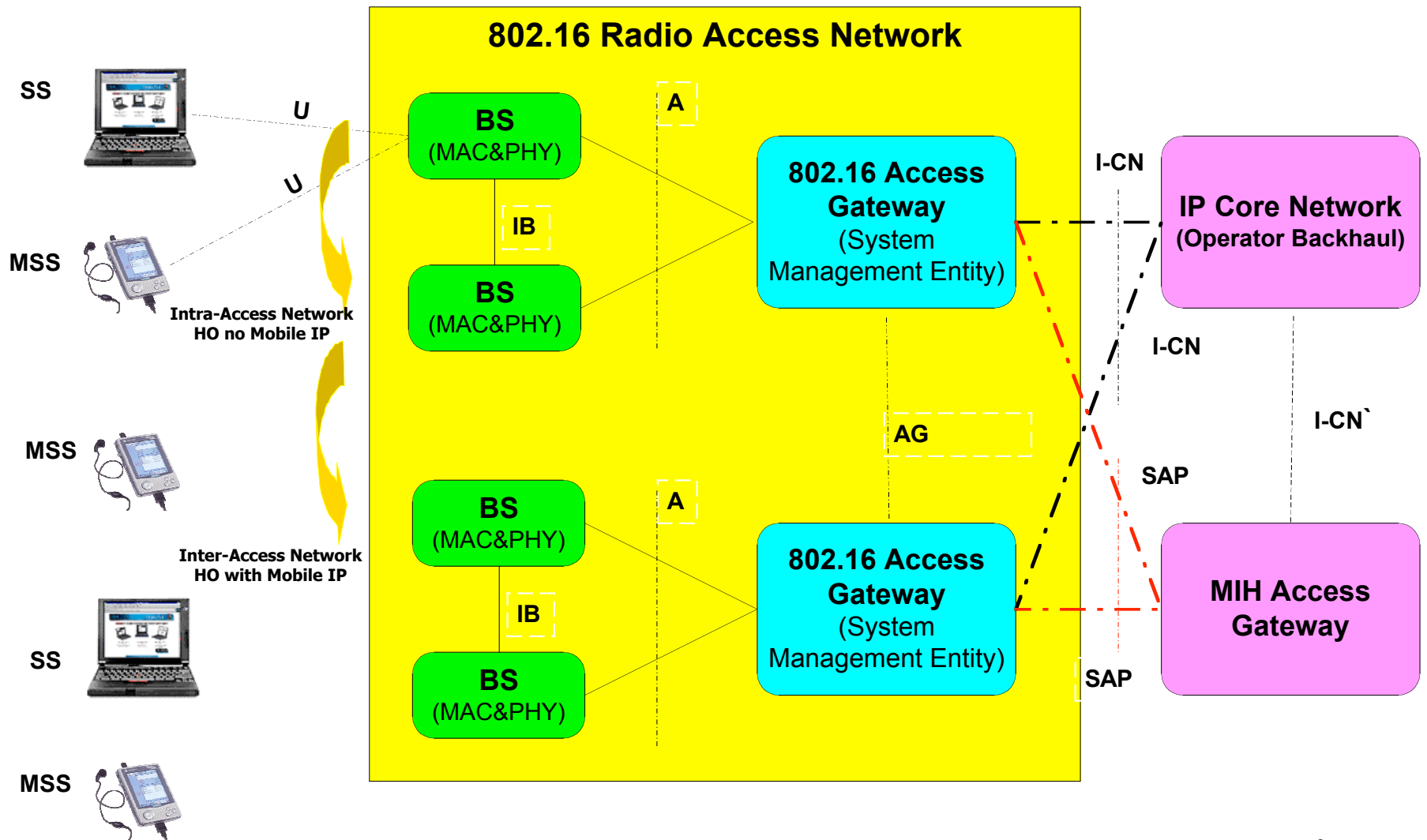


802.16g Logical Network Architecture Options

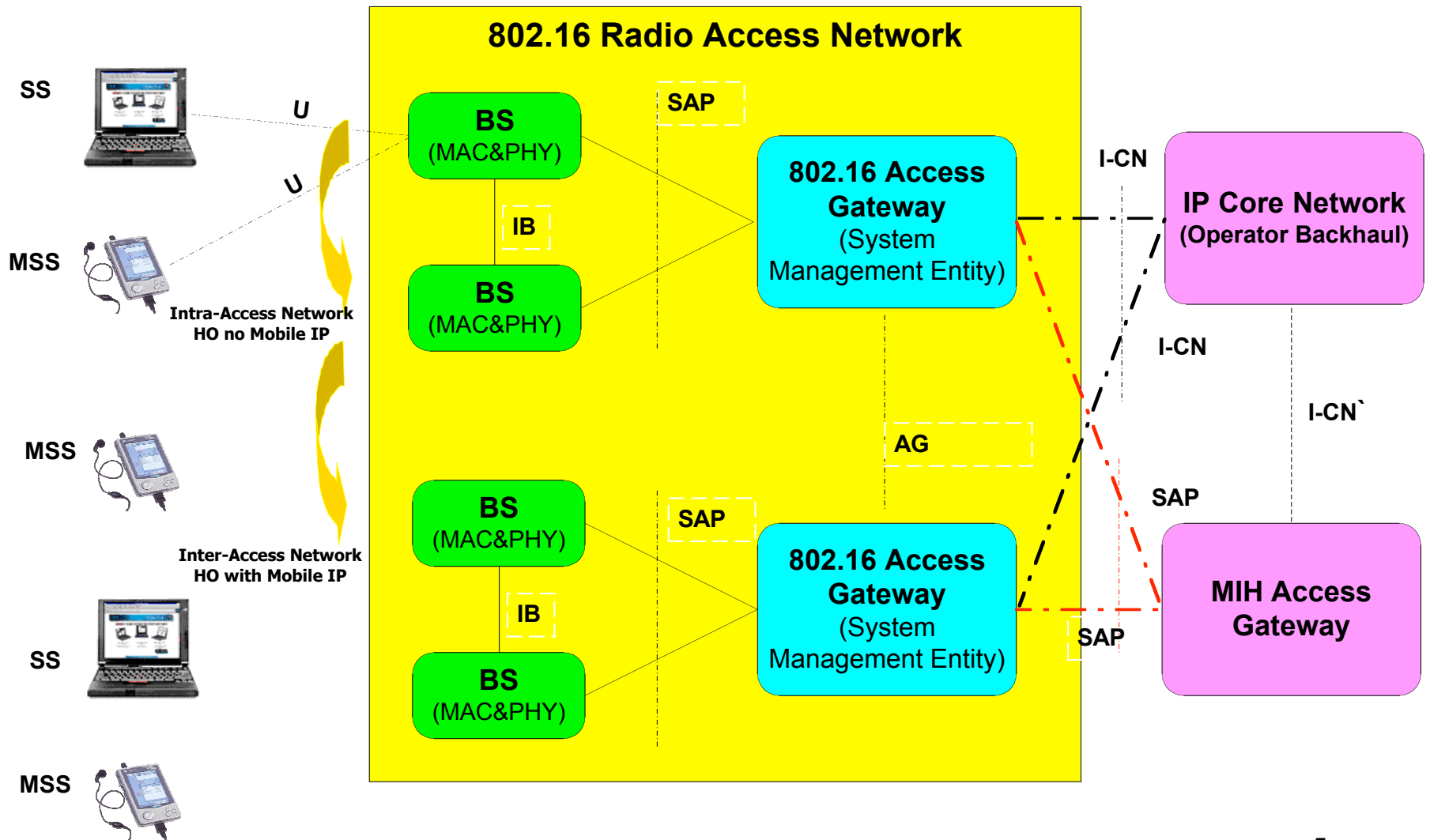
802.16 Logical Network Architecture (Option 1)



802.16 Logical Network Architecture (Option 2)

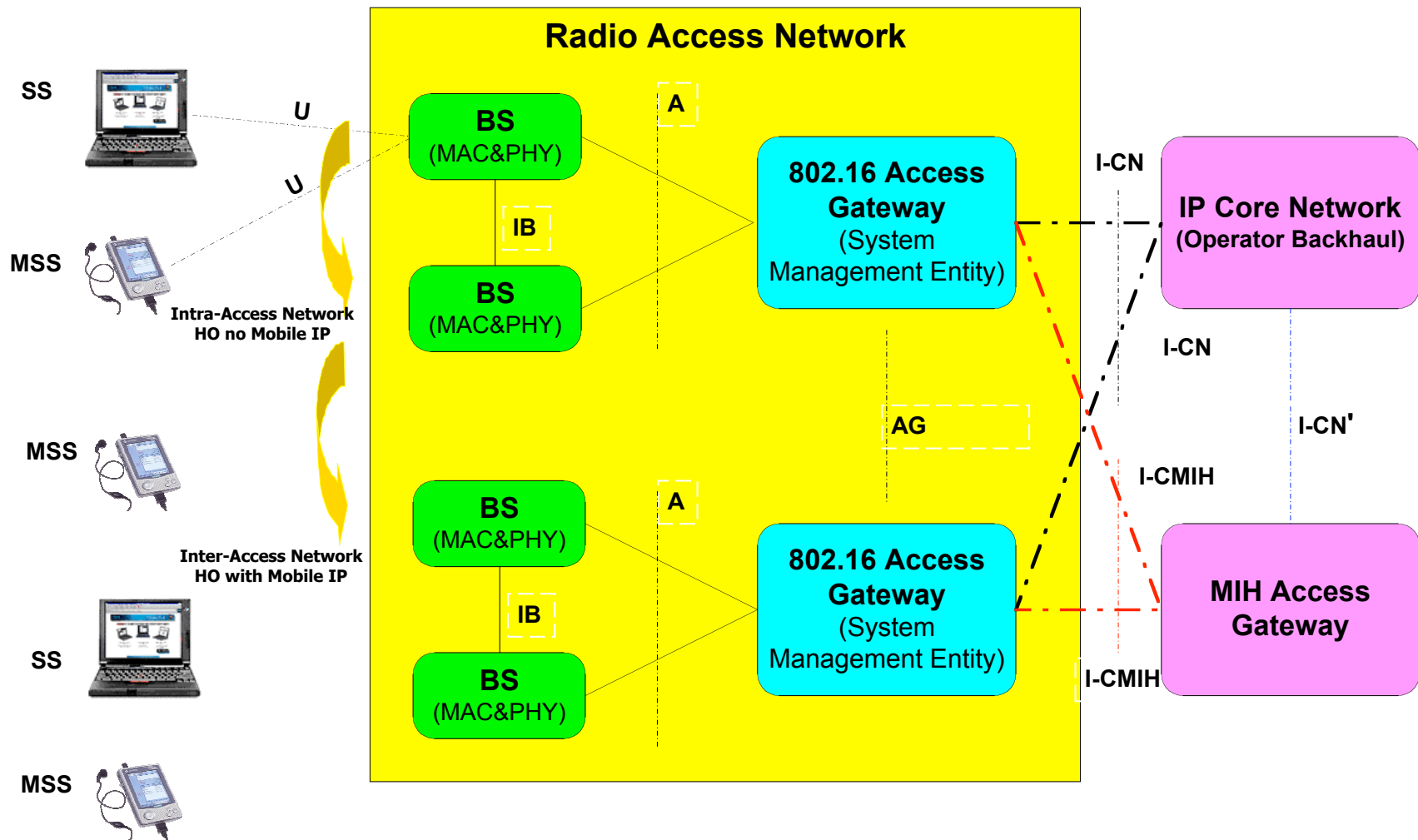


802.16 Logical Network Architecture (Option 3)

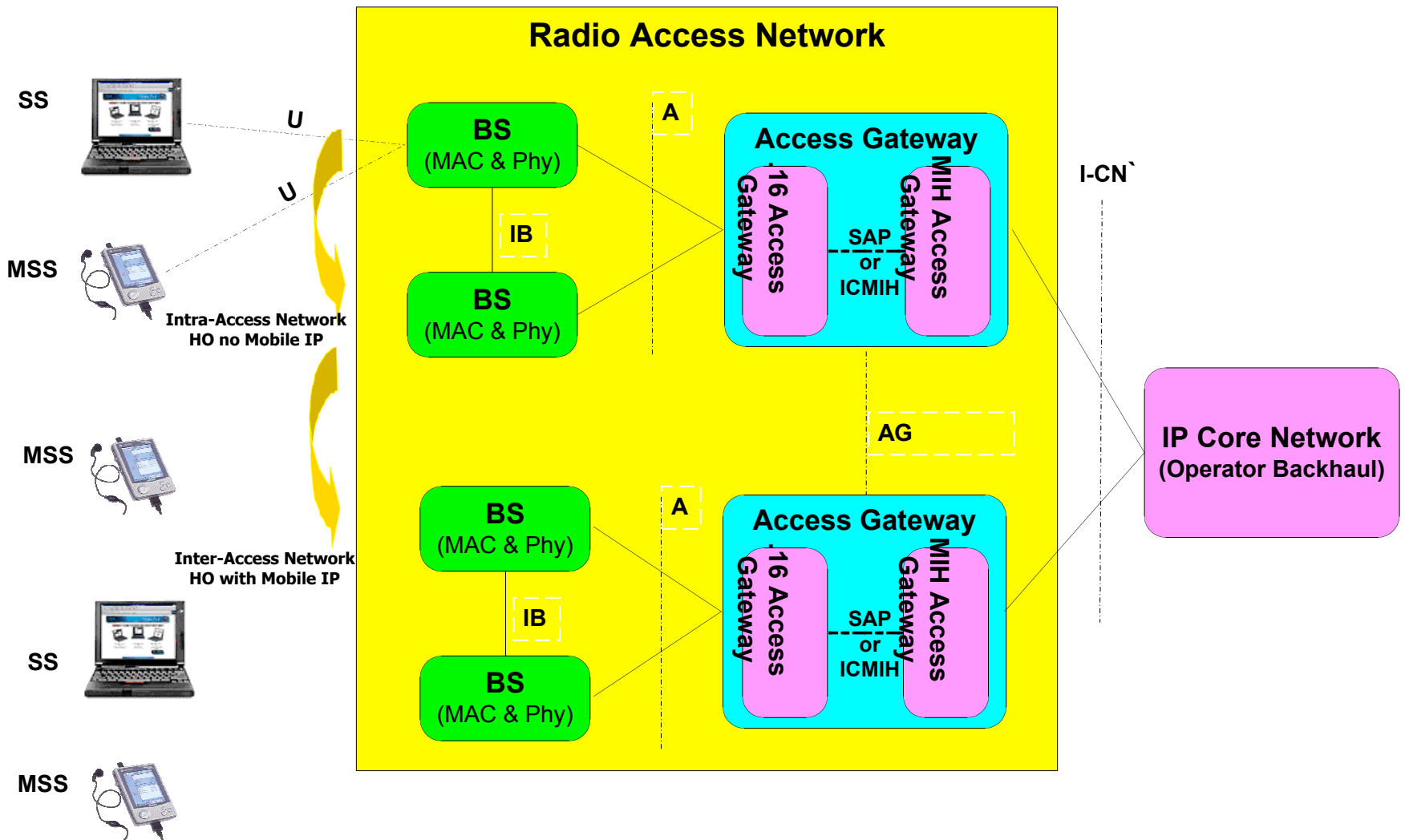


802.16g Physical Network Architecture Options

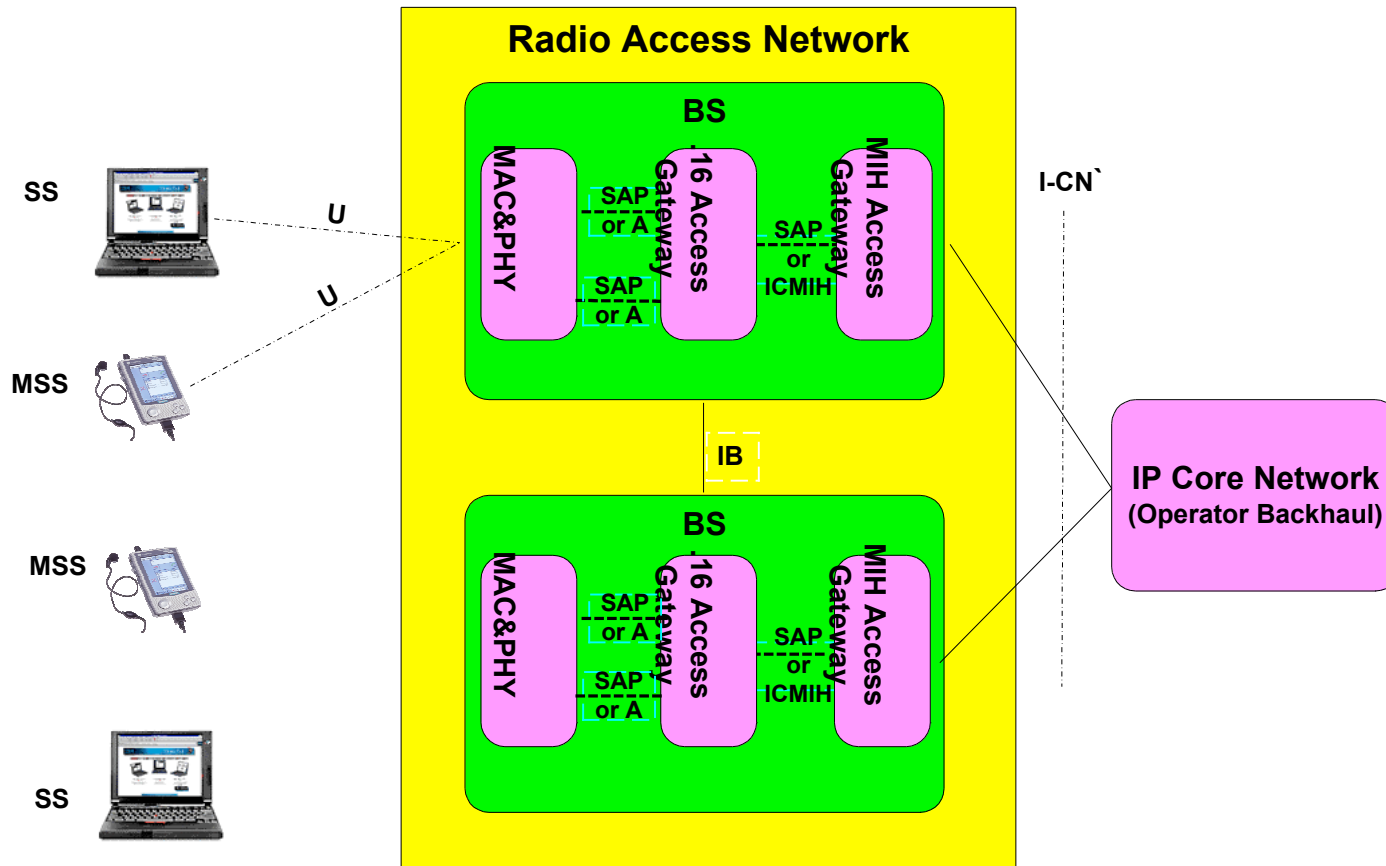
802.16 Physical Network Architecture (Option 1)



802.16 Physical Network Architecture (Option 2)

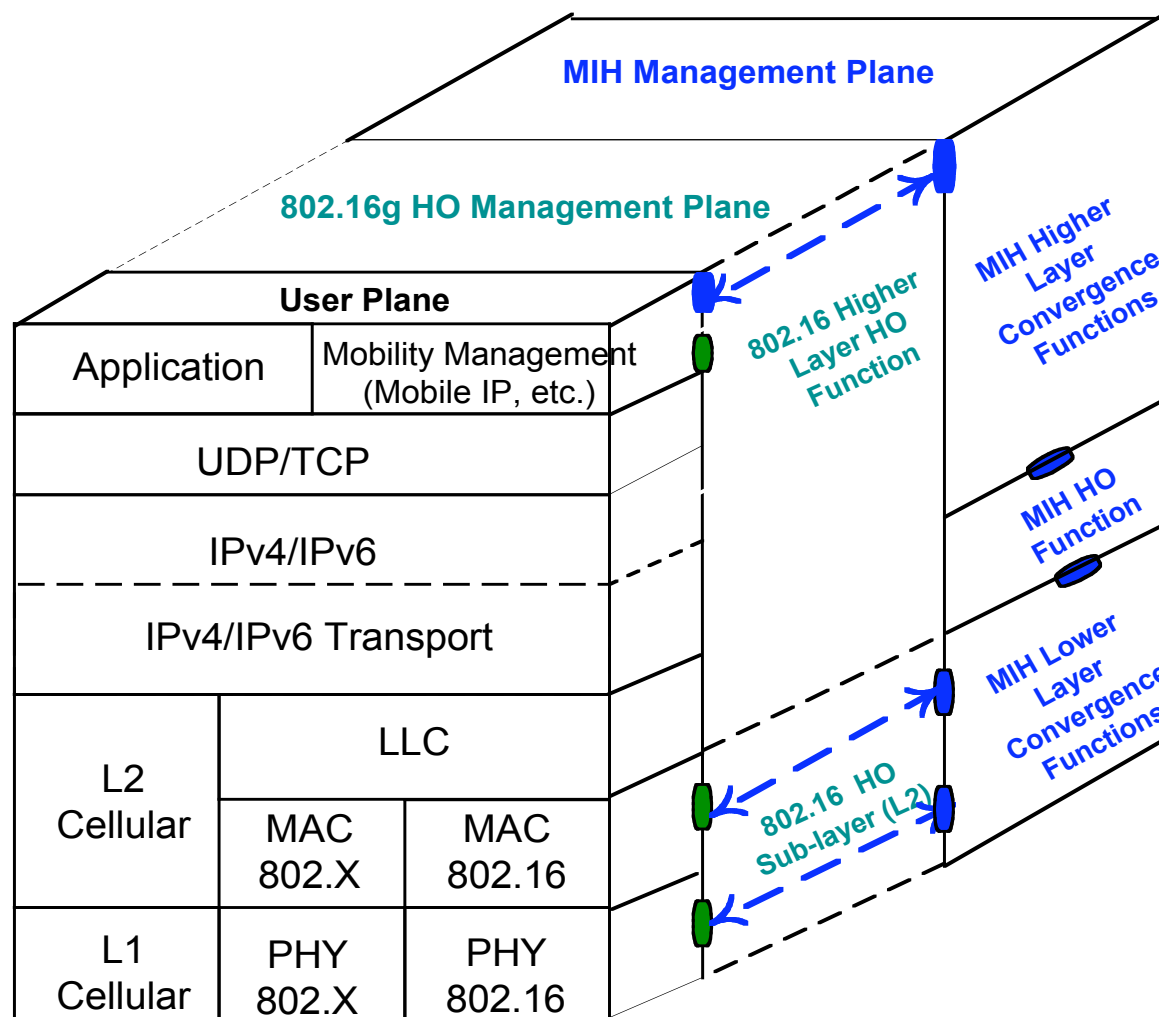


802.16 Physical Network Architecture (Option 3)

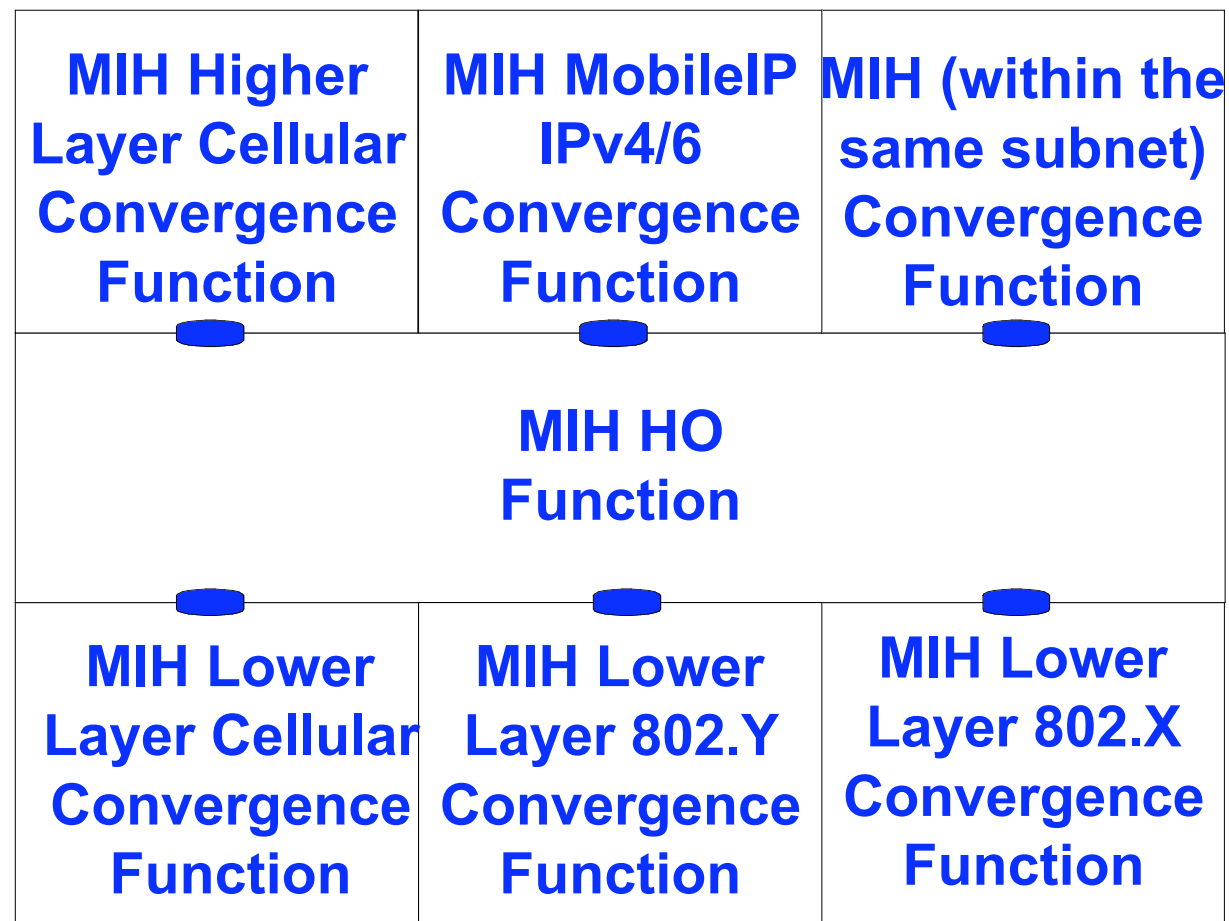


Reference Models

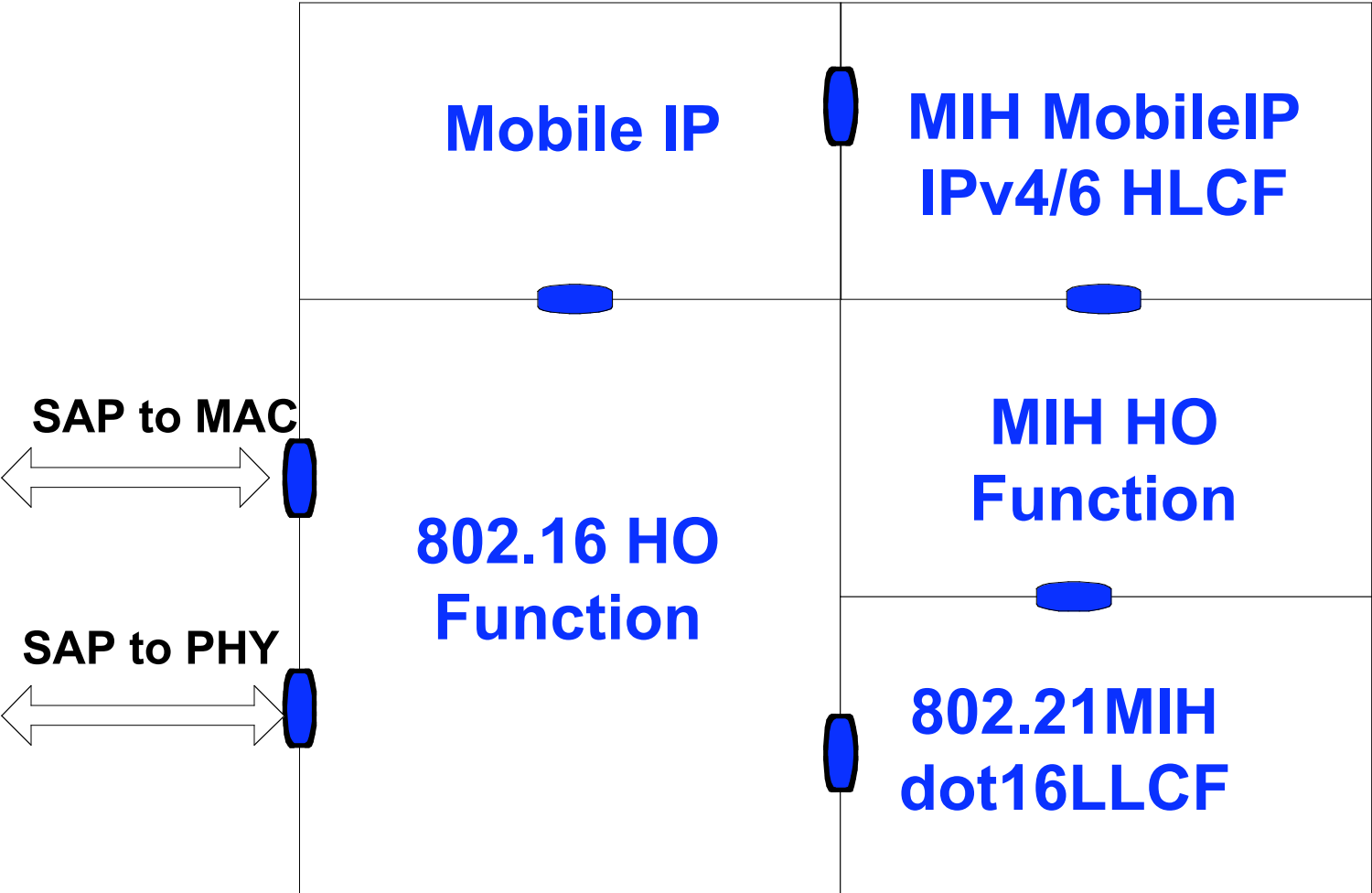
Proposed 802.21 Mobility Reference Model



Proposed Media Independent Handover Management Plane for 802.21



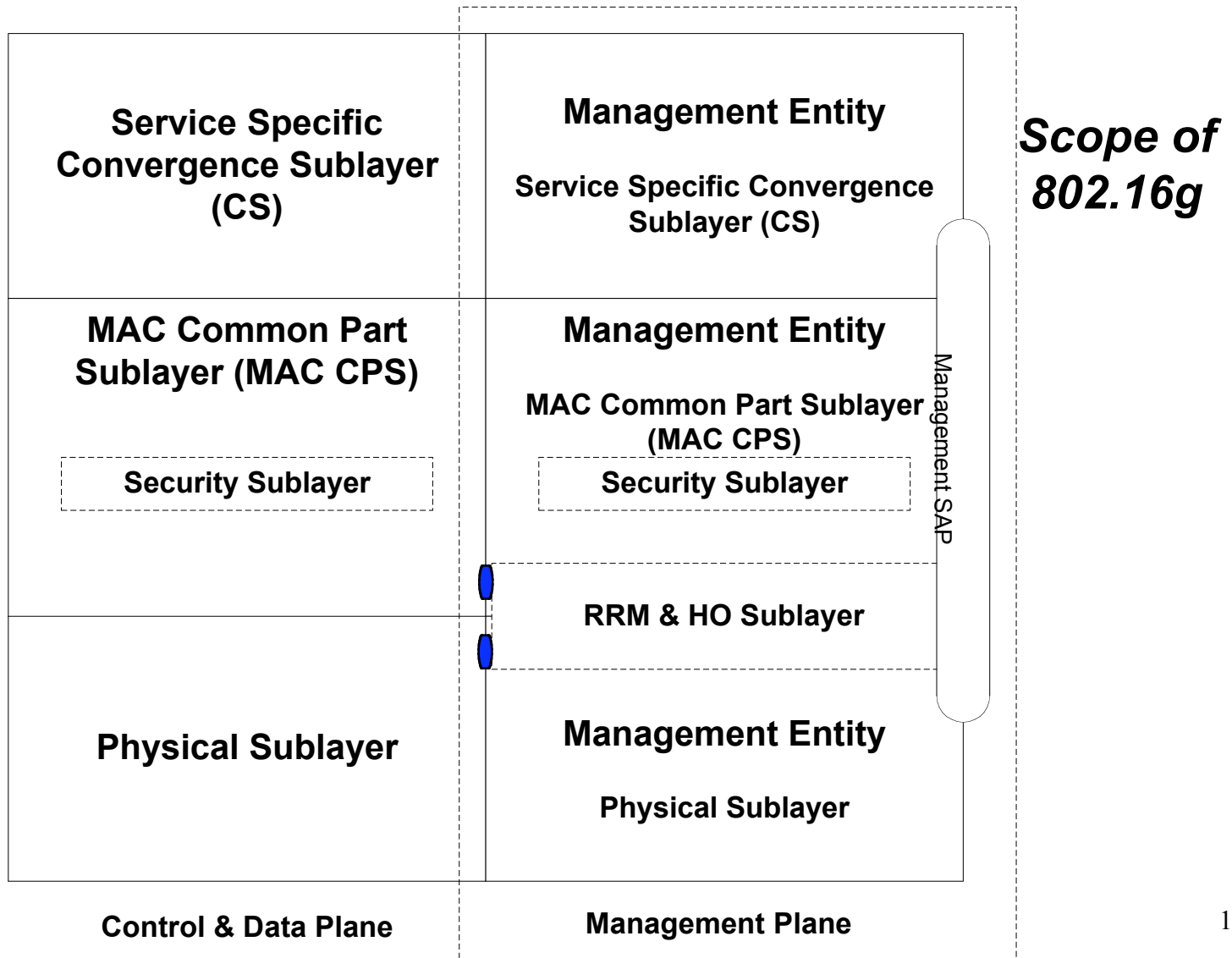
802.16g Handover Management Plane



802.16g Management Plane Coordination with 802.21

- 802.16 PHY&MAC send HO triggers to 802.16 HO Function
- Different Handover scenarios
 - Intra-802.16 subnet (no IP address change)
 - 802.16 HO Function triggers handover
 - Inter-802.16 subnet
 - Same Domain: 802.16 HO Function sends trigger to mobile IP
 - Different Domain: 802.16 HO Function sends trigger to 802.21 MIH LLCF
 - Inter-technology
 - 802.16 HO Function sends trigger to 802.21 MIH LLC

802.16g Specific Reference Model



Conclusion

- The proposed 802.16 architecture and reference models address both 802.16 specific and higher layer (inter-technology) handoffs
- It is consistent with the proposed 802.21 architecture.
- 802.16 should select one of the logical and physical network architecture models that have been proposed
- Recommend adoption of the proposed reference model for 802.16g
 - RRM&HO sub-layer added to the management plane