

Project	<b>IEEE 802.16 Broadband Wireless Access Working Group</b> < <a href="http://ieee802.org/16">http://ieee802.org/16</a> >	
Title	<b>Network Reference Model</b>	
Date Submitted	<b>2004-11-07</b>	
Source(s)	Ronny (Yong-Ho) Kim, and Changjae Lee LG Electronics, Inc. 533, Hogye-1dong, Dongan-gu, Anyang-shi, Kyongki-do, Korea	Voice: +82-31-450-2945 Fax: +82-31-450-7912 mailto: [ronnykim, cjlee16]@lge.com
Re:	Response to call for contribution 802.16g	
Abstract	Network Reference Model of 802.16g	
Purpose	Proposal for Network Reference Model of 802.16g	
Notice	This document has been prepared to assist IEEE 802.16. It is offered as a basis for discussion and is not binding on the contributing individual(s) or organization(s). The material in this document is subject to change in form and content after further study. The contributor(s) reserve(s) the right to add, amend or withdraw material contained herein.	
Release	The contributor grants a free, irrevocable license to the IEEE to incorporate material contained in this contribution, and any modifications thereof, in the creation of an IEEE Standards publication; to copyright in the IEEE's name any IEEE Standards publication even though it may include portions of this contribution; and at the IEEE's sole discretion to permit others to reproduce in whole or in part the resulting IEEE Standards publication. The contributor also acknowledges and accepts that this contribution may be made public by IEEE 802.16.	
Patent Policy and Procedures	The contributor is familiar with the IEEE 802.16 Patent Policy and Procedures < <a href="http://ieee802.org/16/ipr/patents/policy.html">http://ieee802.org/16/ipr/patents/policy.html</a> >, including the statement "IEEE standards may include the known use of patent(s), including patent applications, provided the IEEE receives assurance from the patent holder or applicant with respect to patents essential for compliance with both mandatory and optional portions of the standard." Early disclosure to the Working Group of patent information that might be relevant to the standard is essential to reduce the possibility for delays in the development process and increase the likelihood that the draft publication will be approved for publication. Please notify the Chair < <a href="mailto:chair@wirelessman.org">mailto:chair@wirelessman.org</a> > as early as possible, in written or electronic form, if patented technology (or technology under patent application) might be incorporated into a draft standard being developed within the IEEE 802.16 Working Group. The Chair will disclose this notification via the IEEE 802.16 web site < <a href="http://ieee802.org/16/ipr/patents/notices">http://ieee802.org/16/ipr/patents/notices</a> >.	

# Network Reference Model

Ronny(Yong-Ho) Kim, and Changjae Lee,

LG Electronics

## 1. Network Architecture Example

Example of network architecture is shown in Figure 1.

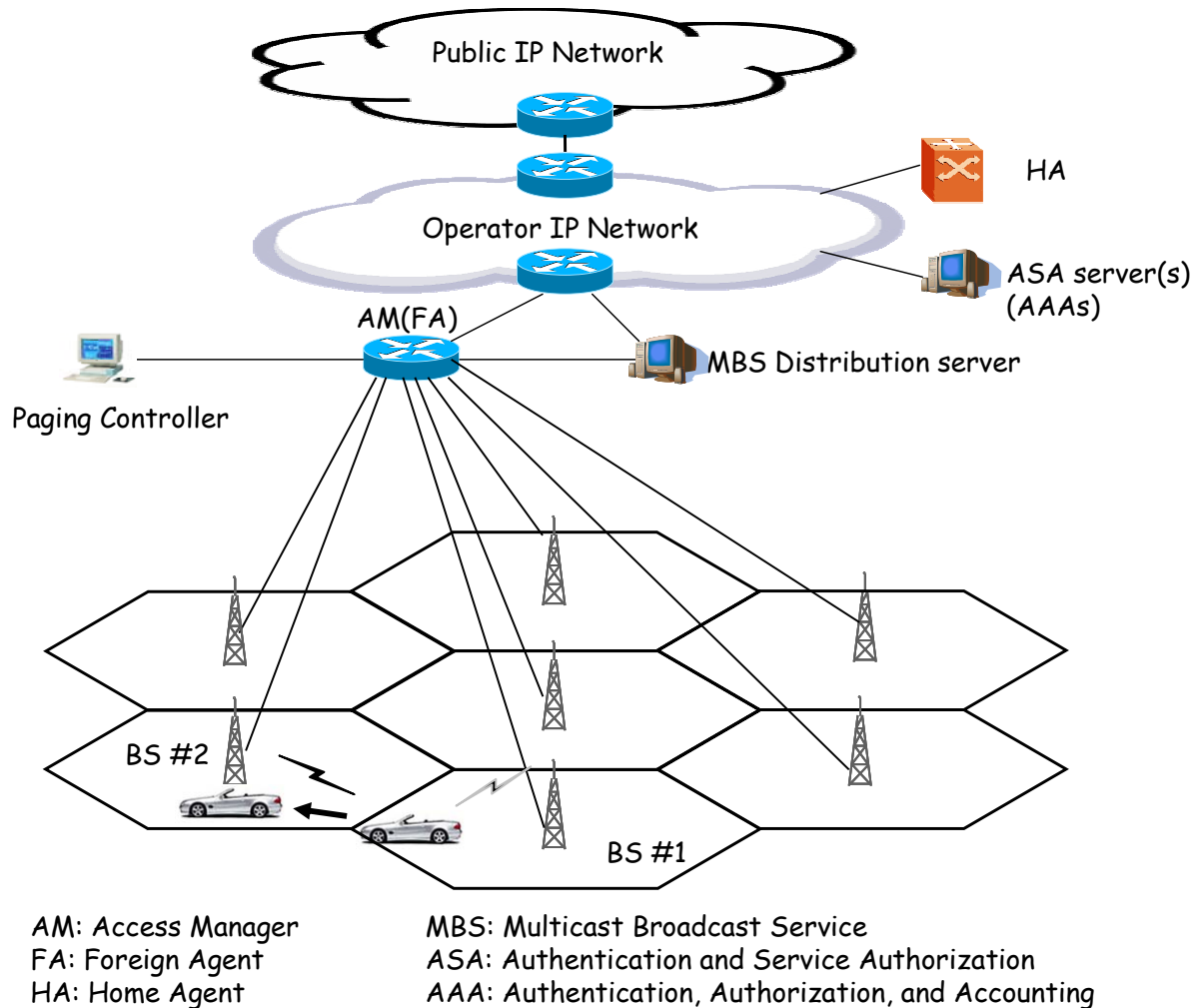


Figure 1. Example of Network Architecture

### 1.1. Entities

- AM (Access Manager)
  - IP routing and Mobility Management
  - FA function (This may be taken out of AM, and reside in the IP network)
  - QoS Management
  - IP Multicast (\*MBS Distribution Server can replace this function)

- Inter BS Handover control (Hard Handover, Soft Handover, FBSS)
- Resource management
- **ASA Servers (Authentication and Service Authorization)**
  - AAA (Authorization, Authentication and Accounting) function
  - Management
  - Provisioning
  - ※ AM is logically one of ASA servers
- **MBS (Multicast/Broadcast) Distribution Server**
  - MBS contents distribution function for Macro Diversity
  - ※ MBS Distribution Server is a logical entity. MBS distribution entity can be embedded in the specific BS or AM.
- **Paging Controller**
  - Location Management
  - Session information control
  - Paging control
  - ※ Paging Controller is a logical entity. Paging controller can be embedded in the specific BS or AM.

## 2. Network Reference Model

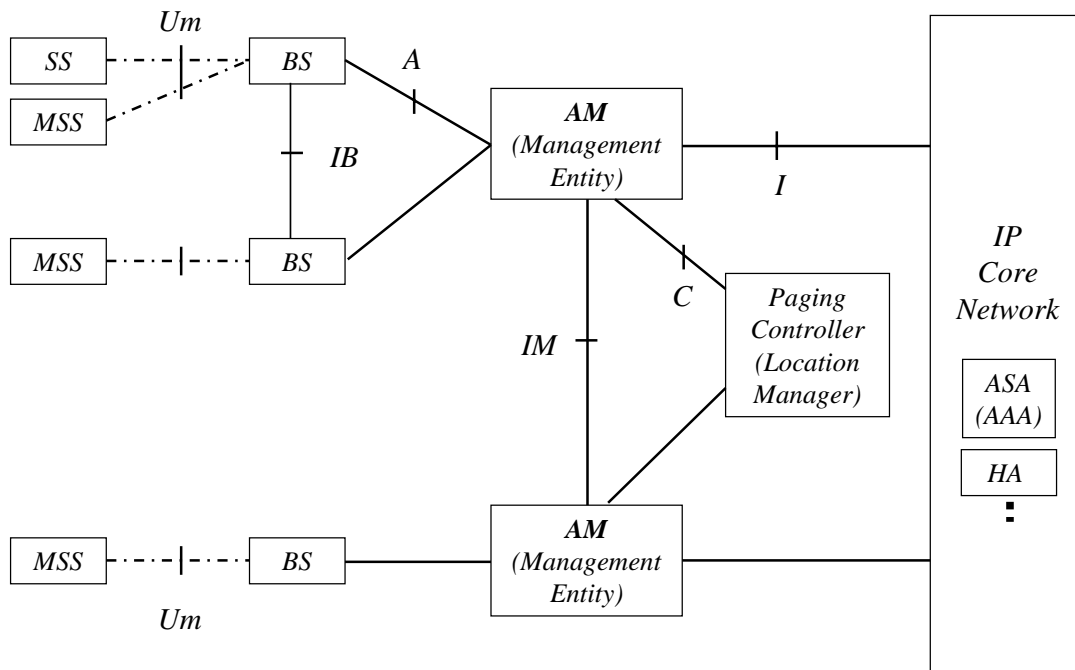


Figure 2. Network Reference Model

Reference Point	Elements	Comments
Um	Management Interface between SS or MSS and BS	PHY, MAC (including CS) function
A	Interface between BS and AM	
C	Interface between MA and Paging controller	
IM	Inter AM interface	
I	Interface between MA and IP core network	
IB	Inter BSs interface	BS-to-BS messages