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Re:	Contribution on comments to IEEE 802.16g-04/03r3
Abstract	In this contribution, we describe IPv4 connection procedure and primitives that could be exchanged between the BS and the NCMS entities.
Purpose	Adoption
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IPv4 connection Management

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1. Problem Statement

The purpose is to describe IPv4 connection procedure and primitives that could be exchanged between the BS and the NSMS entities. This proposal makes it possible to establish IP connectivity for SS and MSS as specified in the remainder of this document.

2. Summary of the Proposed Remedy

In this contribution, we define 3 primitives to support service flow management between BS and access network (NCMS) which are described briefly in the following table.

Primitive	Direction	Primitive Contents
MIP_Transfer	BS <-> NCMS	MSS ID, MIP Payload
DHCP_Transfer	BS <-> NCMS	MSS ID, DHCP Payload
IP_Allocation_Notification.indication	BS <- NCMS	MSS ID, Allocated IP Address

3. Proposed Text Changes

[*Insert section 14.5.6.3 as follow*]

14.5.6.3 SS/MSS Connection Management

14.5.6.3.1 IPv4 Connection Management

There are two kinds of IP allocation method, DHCP (Dynamic Host Control Protocol) and MIP (Mobile IP).

First, for the IP allocation using DHCP, the DHCP protocol is employed in SS/MSS and NCMS (a DHCP relay agent and a server). DHCP payloads are transported between SS/MSS and BS, but BS forward them encapsulated. SS/MSS sends a DHCPDISCOVER message in order to initiate IP allocation procedure. A SS/MSS receives a DHCPOFFER message which has the information of DHCP server. The SS/MSS requests an IP address allocation by sending a DHCPREQUEST message. Then a newly allocated IP address is provided by the DHCP server in a DHCPACK message. A Gateway address, DNS (Domain Name Server) addresses, and an IP address lease time are also represented.

Second, for the IP allocation using MIP, the MIP protocol is employed in MSS and NCMS or a mobility agent (a Foreign Agent and/or a Home Agent). MIP payloads encapsulated also are forwarded between MSS and BS. MIP procedure is started when a MSS receives an Agent Advertisement message with information of a mobility agent. After that, the SS sends a MIP Registration Request message which includes a Home Agent address, a user NAI (Network Access Identifier) and so on. Then, the MSS receives a MIP Registration Response message with successful Result-Code. If the MSS forwards the MIP Registration Request message with no IP address, an allocated IP address is represented in the MIP Registration Response.

14.5.6.3.2 Service Primitives

14.5.6.3.2.1 DHCP_Transfer

14.5.6.3.2.1.1 Function

DHCP payloads are exchanged between an SS/MSS and an DHCP Client entity. The DHCP payloads are encapsulated in the DHCP Transfer primitive because it is not interpreted in the BS.

14.5.6.3.2.1.2 Semantics of the Service Primitives

The parameters of the primitives are as follows:

DHCP_Transfer
{
MSS ID
DHCP Payload
}

MSS ID

48-bit unique identifier used for user identification between BS and NCMS

DHCP Payload
Contains the DHCP payload

14.5.6.3.2.2 MIP_Transfer

14.5.6.3.2.2.1 Function
MIP payloads are exchanged between an MSS and an entity with functionalities of mobility agent in NCMS. The MIP payloads are encapsulated in the MIP Transfer primitive because it is not interpreted in the BS.

14.5.6.3.2.2.2 Semantics of the Service Primitives
The parameters of the primitives are as follows:

MIP_Transfer
{
MSS ID
MIP Payload
}

MSS ID
48-bit unique identifier used for user identification between BS and NCMS
MIP Payload
Contains the MIP payload

14.5.6.3.2.3 IP_Allocation_Notification.indication

14.5.6.3.2.3.1 Function

After MIP or DHCP exchanges are completed, the SS/MSS gets a new allocated IP address. For the BS, NCMS sends a new allocated IP address for the SS/MSS in IP_Allocation.indication primitive.

14.5.6.3.2.3.2 Semantics of the Service Primitives

The parameters of the primitives are as follows:

IP_Allocation_Notification.indication
{
MSS ID
IP Address
}

MSS ID
48-bit unique identifier used for user identification between BS and NCMS
IP Address
A new address allocated to the SS/MSS using DHCP or MIP.

14.5.6.3.2.3.3 When generated
This primitive is issued by a NCMS (a DHCP client or a Mobility Agent) when the IP allocation procedure are successfully completed.

14.5.6.3.2.3.4 Effect of receipt
A newly allocated IP address is known to the BS.

References
[1] R. Droms, “Dynamic Host Configuration Protocol,” RFC2131, March 1997
[2] C. Perkins, “IP Mobility Support for IPv4,” RFC3344, August 2002
[3] IEEE-Std 802.16-2004
[4] IEEE P802.16e/D9