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Re:	IEEE P802.16 REVe/D4-2004
Abstract	This contribution presents a method for pre IP allocation by PKM.
Purpose	Review and adopt the suggested changes into P802.16e/D4
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Pre IP allocation by PKM

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1. Introduction

For allocating IP address in network entry of MSS, the process is RNG, SBC, PKM, REG, and IP allocation(DHCP, Mobile IP). In case of fast moving MSS between subnets, to provide seamless service, MSS shall request DHCP or MIP registration request and as fast as bind with effective subnet after REG-REQ/RSP during HO. Therefore, if the number of MSS is increased or if the mobility of connecting MSS is fast, the spending of time and much of traffic is increased.

Therefore, by allocating IP address in PKM, the time of IP binding is reduced and the load of traffic can be improved with a minimizing mobility binding of mobile agent.

2. Suggested Changes

[Replace and add the text at the end of 6.3.9.10]

6.3.9.10 Establish IP Connectivity

For an MSS, if mobile IP is being used, the MSS may secure it's address on the secondary management connection using mobile IP.

~~Otherwise~~ for fixed and for MSSs using IPv4 and not using mobile IP, ~~At this point~~, the SS shall invoke DHCP mechanisms[IETF RFC 2131] in order to obtain an IP address and any other parameters needed to establish IP connectivity. The DHCP response shall contain the bname of a file which contains further configuration parameters. For fixed SS and for MSSs using IPv6, the SS shall either invoke DHCPv6[IETF RFC 3315] or IPv6 Stateless Address Autoconfiguration[IETF RFC 2462] based on the value of TLV tuple in REG RSP. Eastablished of IP connectivity shall be performed on the SS's Secondary Management Connection, see Table 94.

for an MSS, if pre-IP-allocation by PKM is being used, the MSS skip the establishment of IP connectivity step. Method for pre-IP-allocation by PKM is described in section 9.1.3

[Insert the following text after section 9.1.2]

9.1.3 Pre IP allocation by PKM

For IP allocation using DHCP or Mobile IP, MSS shall be given an IP constitution information in PKM-REQ/RSP process which is an authentication process to BS.

The following is the flow of pre IP allocation method.

1

When IP constitution information be given to MSS by Pre IP allocation method , IP binding is processed as following rules.
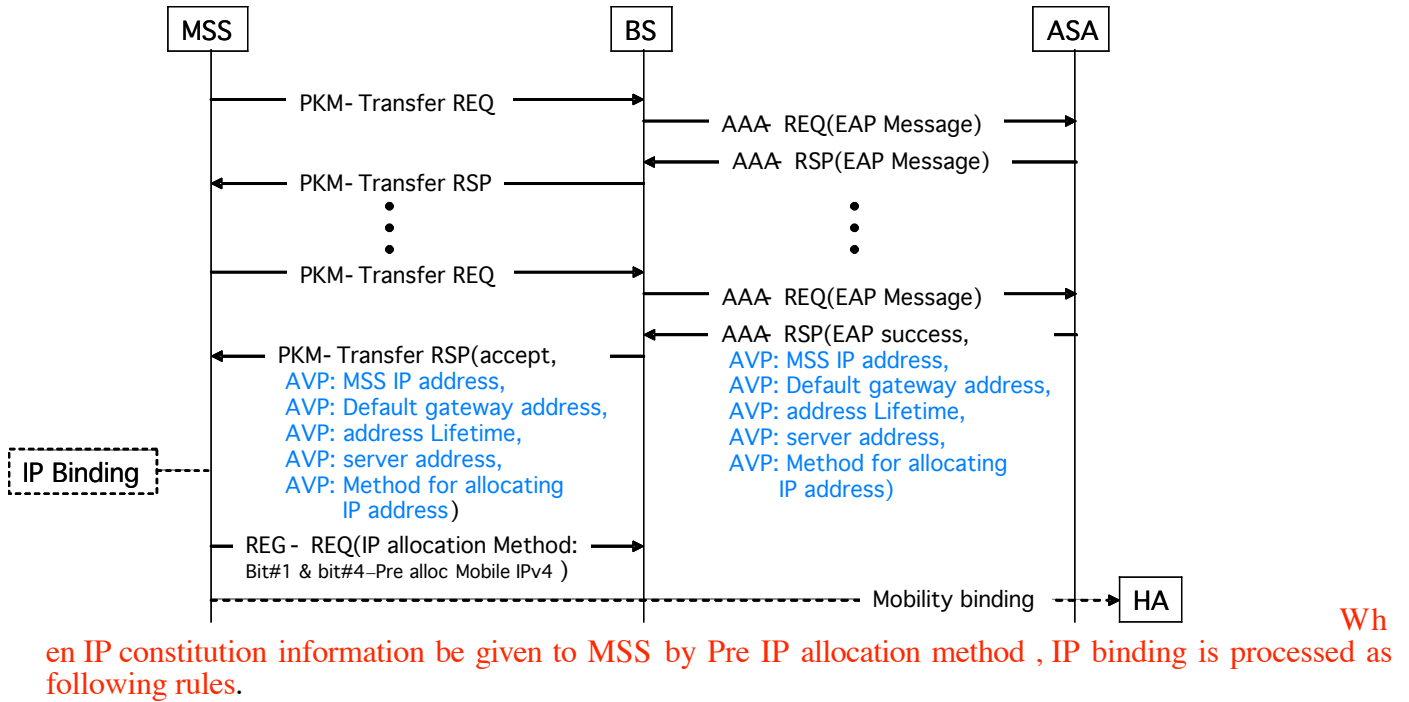
(a) IP information allocated in PKM process

IP Constitution Information	Contents	Example
MSS IP address	IP address of MSS	210.11.11.103
Default gateway address	Router IP of subnet	210.11.11.1
Address lifetime	IP effective time in second	1800 sec(30 min.)
Server address	DHCP or Home agent IP	126.180.24.10(DHCP) 210.11.11.10(HA)
Method for IP address allocation	Addressable IP	Mobile IPv4

(b) A variable of binding with IP constitution information

IP Constitution Information	DHCP Base	Mobile IP Base
MSS IP address	Yiaddr	Home address
Default gateway address	Router address	Default gateway
Address lifetime	Lease time	Lifetime
Server address	Siaddr	Home agent address
Method for allocating IP address	DHCP	Mobile IPv4

[Modify the section 11.7.10 "Method for allocating IP address"]

Type	Length	Value

17	1	bit #0: DHCP
		bit#1:MobileIPv4
		bit#2:DHCPv6
		bit #3: IPv6 Stateless Address Autoconfiguration
		bit #4: Pre-IP-allocation by PKM
		bits #45-7: reserved; shall be set to zero