Project	**IEEE 802.21 Media Independent Handover Services** **<http://www.ieee802.org/21/>**
Title	**Pre-acquisition of System Parameters**
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Source(s)	Jin Lee LG Electronics, Inc. 533,Hogye-1dong,Dongan-gu, Anyang-shi, Kyongki-do, Korea	Voice: +82-31-450-1856 Fax: +82-31-450-7912 [mailto: jins978@lge.com]
Re:	IEEE 802.21 Session #19 in Orlando
Abstract	This contribution proposes to achieve system parameters before media independent handover.
Purpose	Update 802.21 D04.00 draft to support seamless Media Independent Handover
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Pre-acquisition of System Parameters

Jin Lee
LG Electronics, Inc.

1. Introduction

We have discussed effects of system parameters such as DCD and UCD in IEEE 802.16 handover performance. According to [1], reducing synchronization time in IEEE 802.16 system plays a key role to optimize handover performance. Also in [2], UE tries to achieve access parameters including system information block (SIB)s in order to provide a speedy initial access from its target eNB before handover execution.

Having said that, handover performance can be improved gracefully if system parameters for synchronization can be attained in advance. Therefore this contribution proposes system parameters in IEEE 802.16, 3gpp and 3gpp2 shall be obtained either through the information service or through handover commands before handover

2. Proposed Text Changes

Remedy 1:

System parameter information elements shall be defined for information services.
[In 6.4.3 Information service elements, page 50, line 16, table 7 modified]:

Table 7 – Information elements

PoA Specific Information Elements			
No	Name of information elements	Description	Reference
3.5	Type_IE_POA_SystemParameters	System parameters supported by the link layer of a given PoA	6.4.5.3.x System Parameters

[In 6.4.5.3.x System Parameters, page 61, line 64 Inserted]:
6.4.5.3.x System Parameters

Type= Type_IE_SystemParameters	Length = Variable
SystemParameter Value [Variable] –See Table xx	

Table xx

Syntax	Length(Octet)	Notes
SystemParameter Value	Variable	This value includes system parameters supported by a given PoA, this is independent on the network type. Network type : IEEE 802.16, 3gpp, 3gpp2 etc IEEE 802.16 – UCD, DCD, UIUC, DIUC 3GPP – Master Information Block, Scheduling blocks, System Information Block Types 3GPP2 – (Extended) System Parameters

Remedy 2:

System parameter information elements shall be carried within the current handover commands before handover.

[In 7.6.19.3.2 Semantics of service primitive, page 125, line 64, Inserted]:

7.6.19.3 MIH_Net_HO_Candidate_Query.response

7.6.19.3.2 Semantics of service primitive

The parameters of the primitive are as follows:
MIH_Net_HO_Candidate_Query.response (
        DestinationIdentifier,
        CurrentLinkIdentifier,
        HandoverAck,
        PreferredLinkList,
        PreferredPoAList,
        Errorcode,
        AvailableResourceSet,
        SystemParameterSet
)

[In 7.6.19.4.2 Semantics of service primitive, page 126, line 41, Inserted]:

Name	Type	Valid range	Description
Destination Identifier	Identifier	Valid MIHF iden tifier	The destination identifier of request or response. This is the identifier of local or peer MIHF.

Current Link Identifier	NetworkIdentifier. May be one of differ ent 802 and Cellular networks.	N/A	This identifies the current access network over which the command needs to be sent. This is valid only for remote commands which need to be sent to remote MIHF. The command is then sent either at L2 or at L3.
Handover Ack	Boolean	N/A	True : Initiate Handover False : Abort Handover If the handover has to be aborted then a reason code is provided
Preferred Link List	NetworkIdentifier. Can be different 802 and Cellular net works	N/A	This is the identifier list of new networks to which handover needs to be initiated. This may be different than the networks that were suggested in the handover request. The front is most suitable, backward is less.
Preferred PoA List	MAC_ADDRESS (Optional)	N/A	This is the Suggested Point of Attachment List (AP/BS) on new networks. The front is most suitable, backward is less.
Error Code	Enumerate	N/A	Lists the reason for aborting/declining the handover request.
Available Resource Set	Set of Linkidenfier parameters and their available resource status	N/A	Containing a set of LinkIdentifier parameters and their corresponding available resource on candidate network(s): LinkIdentifier
SystemParameterSet	Set of system parameters	N/A	Containing a set of system parameters on preferred PoA(s): Preferred PoA System parameter

[In 7.6.19.4.2 Semantics of service primitive, page 127, line 29, Inserted]:

7.6.19.4 MIH_Net_HO_Candidate_Query.confirm

7.6.19.4.2 Semantics of service primitive

The parameters of the primitive are as follows:
MIH_Net_HO_Candidate_Query.confirm (
      DestinationIdentifier,
      CurrentLinkIdentifier,
      HandoverAck,
      PreferredLinkList,
      PreferredPoAList,
      Errorcode,
      Status,
      SystemParameterSet

)

[In 7.6.19.4.2 Semantics of service primitive, page 127, line 66, Inserted]:

Name	Type	Valid range	Description
Destination Identifier	Identifier	Valid MIHF iden tifier	The destination identifier of request or response. This is the identifier of local or peer MIHF.
Current LinkIdentifier	NetworkIdentifier. May be one of differ ent 802 and Cellular networks.	N/A	This identifies the current access network over which the command needs to be sent. This is valid only for remote commands which need to be sent to remote MIHF. The command is then sent either at L2 or at L3.
Handover Ack	Boolean	N/A	True : Initiate Handover False : Abort Handover If the handover has to be aborted then a reason code is provided
Preferred Link List	NetworkIdentifier. Can be different 802 and Cellular net works	N/A	This is the identifier list of new networks to which handover needs to be initiated. This may be different than the networks that were suggested in the handover request. The front is most suitable, backward is less.
Preferred PoA List	MAC_ADDRESS (Optional)	N/A	This is the Suggested Point of Attachment List (AP/BS) on new networks. The front is most suitable, backward is less.
Error Code	Enumerate	N/A	Lists the reason for aborting/declining the handover request.
Status	Enumerated	Success Error	Status of operation
SystemParameterSet	Set of system parameters	N/A	Containing a set of system parameters on preferred PoA(s): Preferred PoA System parameter

[Same modification shall be adopted in :]
MIH_MN_HO_Candidate_Query. response/confirm primitive
MIH_Net_HO_Candidate_Query response message
MIH_MN_HO_Candidate_Query response message

4. References

[1] 21-06-0524-01-0000-802_16_Parameter_Effects_on_Handover_Performance

[2] R2-071124 E-UTRAN Stage 2 TS 36300 v090

[3] 3GPP2 C.S0005-D Version 1.0