<table>
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<tr>
<th>Project</th>
<th>IEEE 802.16 Broadband Wireless Access Working Group [<a href="http://ieee802.org/16">http://ieee802.org/16</a>]</th>
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<tr>
<td>Title</td>
<td>ASN.1 coding for FTN messages in IEEE 802.16.1a</td>
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<tr>
<td>Date Submitted</td>
<td>2012-11-05</td>
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<tr>
<td>Source(s)</td>
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</tbody>
</table>

Re: In response to Sponsor Ballot Recirculation #1 on P802.16.1a

Abstract
ASN.1 coding for BS-controlled FTN messages in GRIDMAN Draft Standard

Purpose
To discuss and adopt the proposed text in the draft amendment document on GRIDMAN

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ASN.1 coding for FTN messages in IEEE 802.16.1a

Eunkyung Kim, Jaesun Cha, Anseok Lee, Wooram Shin, Kwangjae Lim
ETRI

1. Introduction
This document provides ASN.1 encoding for BS-controlled FTN messages in P802.16.1a, including:
- AAI-FN-CONFIG-CMD
- AAI-FN-RNG-ACK
- AAI-FN-RNG-FLU
- AAI-MSPG-GRP
- AAI-MSPG-PG

2. References

3. Proposed Text on the IEEE 802.16.1a Amendment Draft Standard

[Remedy1: Add the following text in line#46, page 238, P802.16.1a/D6:]

-- BS controlled HR-MS forwarding to network
  aaiPnPconfigCmd  AAI-PN-CONFIG-CMD,
  aaiPnPrngAck    AAI-PN-RNG-ACK,
  aaiPnPrngFlu    AAI-PN-RNG-FLU,
  aaiMspgGrp      AAI-MSPG-GRP,
  aaiMspgPg       AAI-MSPG-PG,

[Remedy2: Add the following text in line#30, page 296, P802.16.1a/D6:]
BS-Controlled FTN Messages

AAI-FN-CONFIG-CMD Message

FdmUlPuseZone ::= SEQUENCE {
  subframeOffsetRch INTEGER (0..3),
  startRpCodInfoRch INTEGER (0..15),
  numRpCodesForCoverageExtRng INTEGER (0..3)
}

NoFdmUlPuscZone ::= SEQUENCE {
  subframeOffsetRch INTEGER (0..3),
  startRpCodInfoRch INTEGER (0..15),
  txTimeOffsetSRch INTEGER (0..7)
}

PostAccessParamPreAssign ::= SEQUENCE {
  postIdCell INTEGER (0..1023),
  numberOfSuperframeNCI INTEGER (0..3),
  startRpCodInfoSRch INTEGER (0..15),
  numberOfRNGOpportunity INTEGER (0..3),
  subframeOffsetRch INTEGER (0..3)
}

-- BS controlled HR-MS forwarding to network
AAI-FN-CONFIG-CMD ::= SEQUENCE {
  superframeNumActionLSB4 INTEGER (0..15),
  idCell INTEGER (0..1023),
  numberOfPreambleOnlySuperframe INTEGER (0..15),
  numberOfSuperframesWithNCI INTEGER (0..3),
  subframeIndexNCI INTEGER (0..7),
  lruStartingIndexNCI INTEGER (0..63),
  frameContainingRngOpportunity ENUMERATED {
    second, fourth
  },
  numberOfRngOpportunity INTEGER (0..3),
  supportFdmUlPUSCZone SUPPORTFdmUlPuscZone,
  hrMsPreambleTimingAdvance INTEGER (0..2047),
  hrMsEirp INTEGER (0..31),
  hrMstoHrMsFbRrcIndex INTEGER (0..2047),
  hrMrtoHrMsRepRrcIndex INTEGER (0..2047),
  threshold2PhaseDiscovery INTEGER (0..7),
  postAccessParmPreAssign PostAccessParmPreAssign,
  ...
}

RNGStatusSuccessContinue ::= SEQUENCE {
  adjustParamIndication BIT STRING {
    offsetAdjustInd [0],
    powerLevelAdjustInd [1],
    freqOffsetAdjustInd [2]
  },
  timingOffsetAdjust INTEGER (0..32767)
}
powerLevelAdjust INTEGER (0..15) OPTIONAL
freqOffsetAdjust INTEGER (0..511) OPTIONAL

AAI-FN-RNG-ACK ::= SEQUENCE {
  rcvCodes SEQUENCE (SIZE(0..15)) OF SEQUENCE {
    rngPreambleCodeIndex INTEGER (0..3),
    rngStatus ENUMERATED {
      success,
      continue,
      abort,
      secondPhase
    },
    rngStatusSuccessContinue RNGStatusSuccessContinue OPTIONAL
  }
}

AAI-FN-RNG-FLU ::= SEQUENCE {
  numRngCodes SEQUENCE (SIZE(0..15)) OF SEQUENCE {
    rngCodeIndex INTEGER (0..3),
    frameIndex INTEGER (0..15),
    subframeOffsetOfRcvRngPreamble INTEGER (0..3)
  }
}

AAI-MSPG-GRP ::= SEQUENCE {
  purpose BOOLEAN,-- 0: remove, 1: add
  pagerGroupID INTEGER (0..255)
}

MsPgSupportFdmUlPusc ::= SEQUENCE {
  subframeOffsetRch INTEGER (0..3),
  startRpCodInfoRch INTEGER (0..15),
  numRpCodAlloc INTEGER (0..63)
}

MsPgSupportAAI ::= SEQUENCE {
  piPid INTEGER (0..4095),
  startRpCodInfoRch INTEGER (0..15),
  numRpCodAlloc INTEGER (0..63)
}

AAI-MSPG-PG ::= SEQUENCE {
  pagerGroupID INTEGER (0..255) OPTIONAL,
  msPgSupportFdmUlPusc SEQUENCE (SIZE (0..63)) OF MsPgSupportFdmUlPusc OPTIONAL,
  msPgSupportAAI SEQUENCE (SIZE (0..63)) OF MsPgSupportAAI OPTIONAL
}