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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>2012-11-15</td>
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<tr>
<td>Source(s)</td>
<td>Eunkyung Kim, Jaesun Cha, Anseok Lee, Wooram Shin, Kwangjae Lim</td>
</tr>
<tr>
<td>Voice</td>
<td>+82-42-860-5415</td>
</tr>
<tr>
<td>E-mail</td>
<td><a href="mailto:ekkim@etri.re.kr">ekkim@etri.re.kr</a></td>
</tr>
</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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<td><a href="http://standards.ieee.org/guides/bylaws/sect6-7.html#6">http://standards.ieee.org/guides/bylaws/sect6-7.html#6</a> and</td>
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<tr>
<td>Further information is located at</td>
<td><a href="http://standards.ieee.org/board/pat/pat-material.html">http://standards.ieee.org/board/pat/pat-material.html</a> and</td>
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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

[-------------------------------------Start of Text Proposal-------------------------------------]

[Remedy1: Add the following text in line#4, page 238, P802.16.1a/D6:]

-- HR Power Control configuration
aaiHrPcc AAI-HR-PCC

[Remedy2: Add the following text in line#46, page 238, P802.16.1a/D6:]

-- BS controlled HR-MS forwarding to network
aaiPnConfigCmd AAI-PN-CONFIG-CMD.
aaiPnRngAck AAI-PN-RNG-ACK.
aaiPnRngFlu AAI-PN-RNG-FLU.
[Remedy3: Add the following text in line#46, page 282, P802.16.1a/D6:]

```plaintext
-- ++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
-- HR Power Configuration message
-- ++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
AAI-HR-PCC ::= SEQUENCE {
  iotC     INTEGER (0..127),
  offsetC  INTEGER (0..63),
  iotD     INTEGER (0..127),
  offsetD  INTEGER (0..63)
}
```

[Remedy4: Add the following text in line#30, page 296, P802.16.1a/D6:]

```plaintext
-- ++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
-- BS-Controlled FTN Messages
-- ++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
-- ++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
-- AAI-FN-CONFIG-CMD Message
-- ++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
AAI-FN-CONFIG-CMD ::= SEQUENCE {
  superframeNumActionLSB4 INTEGER (0..15),
  idCell                 INTEGER (0..1023),
  numberOfPreambleOnlySuperframe INTEGER (0..15),
  numberOfSuperframesWithNCI INTEGER (0..3),
  lruStartingIndexNCI    INTEGER (0..63),
  numberOfRngOpportunity ENUMERATED {second, fourth},
  subframeOffsetRch INTEGER (0..3),
  supportFdmUlPuscZone CHOICE {
    supportFdmUlPuscZone FdmUlPuscZone,
    noSupportFdmUlPuscZone NoFdmUlPuscZone
  }
}
```
hrMsPreambleTimingAdvance INTEGER (0..2047) OPTIONAL
hrMsEirp INTEGER (0..31)
hrMrtoHrMsPreRrcIndex INTEGER (0..2047) OPTIONAL
hrMrtoHrMsRepRrcIndex INTEGER (0..2047) OPTIONAL
threshold2PhaseDiscovery INTEGER (0..7) OPTIONAL
postAccessParmPreAssign PostAccessParamPreAssign OPTIONAL
...

-- ++++++++++++++++++++++++++++
-- AAI-FN-RNG-ACK Message
-- ++++++++++++++++++++++++++++
RNGStatusSuccessContinue ::= SEQUENCE {
  adjustParamIndication BIT STRING {
    offsetAdjustInd (0),
    powerLevelAdjustInd (1),
    freqOffsetAdjustInd (2)
  },
  timingOffsetAdjust INTEGER (0..32767) OPTIONAL,
  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 Message
-- ++++++++++++++++++++++++++++
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 Message
-- ++++++++++++++++++++++++++++
AAI-MSPG-GRP ::= SEQUENCE {
  purpose BOOLEAN,-- 0: remove, 1: add
  pagerGroupID INTEGER (0..255)
}

-- ++++++++++++++++++++++++++++
-- AAI-MSPG-PG Message
-- ++++++++++++++++++++++++++++
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),
    mspgPgSupportFdmUlPusc SEQUENCE (SIZE (0..63)) OF MsPgSupportFdmUlPusc OPTIONAL,
    mspgPgSupportAAI SEQUENCE (SIZE (0..63)) OF MsPgSupportAAI OPTIONAL
}

[-------------------------------------End of Text Proposal----------------------------------------------------]