Project	IEEE 802.16 Broadband Wireless Access Working Group <**http://ieee802.org/16**>
Title	Additional fix to some problems with Network Discovery and Selection, Global Roaming Support and Auth Policy negotiation for Initial Network Entry in network using NSP List
Date Submitted	2007-03-14
Source(s)	Erik Colban ecolban@nextwave.com
Re:	IEEE 802.16 Session #48, draft P802.16g/D8
Abstract	Additional fix to complement fixes to some problems with Network Discovery and Selection, Global Roaming Support and Auth Policy negotiation for Initial Network Entry in network using NSP List.
Purpose	Improve and correct P802.16g/D8 draft.
Notice	This document has been prepared to assist IEEE 802.16. It is offered as a basis for discussion and is not binding on the contributing individual(s) or organization(s). The material in this document is subject to change in form and content after further study. The contributor(s) reserve(s) the right to add, amend or withdraw material contained herein.
Release	The contributor grants a free, irrevocable license to the IEEE to incorporate material contained in this contribution, and any modifications thereof, in the creation of an IEEE Standards publication; to copyright in the IEEE's name any IEEE Standards publication even though it may include portions of this contribution; and at the IEEE's sole discretion to permit others to reproduce in whole or in part the resulting IEEE Standards publication. The contributor also acknowledges and accepts that this contribution may be made public by IEEE 802.16.
Patent Policy and Procedures	The contributor is familiar with the IEEE 802.16 Patent Policy and Procedures <http://ieee802.org/16/ipr/patents/policy.html>, including the statement "IEEE standards may include the known use of patent(s), including patent applications, provided the IEEE receives assurance from the patent holder or applicant with respect to patents essential for compliance with both mandatory and optional portions of the standard." Early disclosure to the Working Group of patent information that might be relevant to the standard is essential to reduce the possibility for delays in the development process and increase the likelihood that the draft publication will be approved for publication. Please notify the Chair <mailto:chair@wirelessman.org> as early as possible, in written or electronic form, if patented technology (or technology under patent application) might be incorporated into a draft standard being developed within the IEEE 802.16 Working Group. The Chair will disclose this notification via the IEEE 802.16 web site <http://ieee802.org/16/ipr/patents/notices>.

Additional fix to some problems with Network Discovery and Selection, Global Roaming Support and Auth Policy negotiation for Initial Network Entry in network using NSP List

Erik Colban - NextWave Broadband Inc.

Problem:
Contribution 802.16g-07/047 addresses a BS sending the NSP ID List TLV and theVerbose NSP Name List TLV in an SII-ADV message upon receiving a request in an SBC-REQ message. The current draft 802.16g/D8 specifies that the SII-ADV shall be sent contemporaneously with the SBC-RSP message. This may result in the BS sending SII-ADV messages containing large amount of data frequently and few SSs reading each instance of this message. This may be a problem in particular when the NSP Change Count is updated, and every MS, or almost every MS, entering the network requests the NSP lists to be transmitted. To optimize this process, the BS can delay sending the SBC-RSP message so that they are sent at the same time to multiple MSs. This way the SII-ADV message will be read by all MSs receiving the SBC-RSP message at the same time. The use of this scheme is constrained by the timer by which the SBC-RSP shall be received (T18, default value = 50ms).

The proposed remedy is to not require the SII-ADV to be sent contemporaneously with the SII-ADV message, but instead include a pointer in the SBC-RSP to the frame where the SII-ADV message is sent. Multiple SBC-REQ messages may point to the same SII-ADV message. In addition to saving air interface resources by sending the SII-ADV message less frequently, this remedy allows the MS to sleep and save power while the SII-ADV message is pending.

Remedy1:

Changes are shown on top of changes proposed in contribution C802.16g-07/047r2 in this color.

In P802.16g/D8, in 6.3.2.3.24 SS basic capability response (SBC-RSP) message, page 16, line 23, modify the text as:

The following parameters may be included when solicited in the SBC-REQ message, unless there are no NSP IDs to be included in the NSP List TLV. If the BS is configured with a list of NSPs and the SBC-REQ message included an SIQ TLV (11.8.9), then the NSP List TLV and, if requested, the Verbose NSP Name List TLV shall be included unless the message includes a SII-ADV Message Pointer TLV providing a pointer to an SII-ADV message in which these TLVs are sent:

- **NSP List (see 11.1.8.1)**
- **Verbose NSP Name List (see 11.1.8.2)**
  - Verbose NSP Name List shall only be included in the message if NSP List TLV is also included in the message.
- **Visited NSP Realm (see 11.8.13)**
- **SII-ADV Message Pointer (see 11.8.14)**

Deleted: shall

Deleted: Ids

Deleted: , and unless the BS constructs and transmits an SII-ADV message including the NSP List TLV

Deleted: and NSP Change Count TLV

Deleted:

Deleted: contemporaneously with SBC-RSP

Deleted: NSP Change Count (11.1.8.2)¶

Remedy 2:
Add the following text on page 36, line 60.

[Add a new section 11.8.14:]

Formatted: Font: Italic

11.8.14 SII-ADV Message Pointer

When a BS elects to send information requested in an SBC-REQ message in an SII-ADV message rather than in the SBC-RSP message, this TLV is used to provide a pointer to the frame in which an SII-ADV message is transmitted.

Name	Type	Length	Value	Scope
SII-ADV Message Pointer	183	1	The 8 least significant bits of the frame number of the frame in which the SII-ADV message with requested information is transmitted	SBC-RSP

Formatted: Font: Not Italic