

Project	<b>IEEE 802.16 Broadband Wireless Access Working Group</b> < <a href="http://ieee802.org/16">http://ieee802.org/16</a> >
Title	<b>LBS specific scanning</b>
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Re:	802.16 Revision 2
Abstract	Proposal to provide an indication for scanning for LBS purpose.
Purpose	There is no indication for the scanning purpose. MS does not know how many BSs shall be scanned. LBS result can not be calculated without enough BSs being scanned. And the delay is a part of the QoS parameters for LBS. The purpose of this contribution is to provide the LBS purpose scanning indication in the scanning messages, and the number of BSs that shall be scanned.
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## LBS Specific Scanning

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### Explanation

For scanning triggered by MOB-SCN-REQ and MOB-SCN-RSP messages, MS does not know the purpose of scanning. It will perform scanning at its own will. If this scanning is for LBS purpose, there might be problems. LBS has QoS requirements, such as LBS delay and accuracy. If the number of BS scanned is less than what is expected by LBS, accuracy is downgraded. In the other hand, if the number of scanned BSs is more than expected number of BSs, the delay is enlarged.

We propose MOB-SCN-REQ and MOB-SCN-RSP messages that can indicate LBS purpose by adding a TLV: Minimal BS number for LBS scanning.

### Proposed Text Changes

**Section 6.3.2.3.44 Page 204 Line 18 Modify the paragraph as following:**

The MOB-SCN-REQ message may include the following parameters encoded as TLVs:

Sleep Mode Reactivation Information (see 11.20.2)

Recommended start frame (see 11.20.1)

Minimal BS number for LBS scanning (see 11.20.3)

**Section 6.3.2.3.45 Page 208 Line 18 Modify the paragraph as following:**

The MOB-SCN-REQ message may include the following parameters encoded as TLVs:

Sleep Mode Reactivation Information (see 11.20.2)

Recommended start frame (see 11.20.1)

Minimal BS number for LBS scanning (see 11.20.3)

**Create a new Section 11.20.3 Page 1191 Line 58 as following:**

11.20.3 Minimal BS Number for LBS Scanning

For LBS purpose, BS can send unsolicited MOB-SCN-RSP to MS. The Minimal BS number for LBS scanning may be included in the MOB-SCN-RSP. After MS receives the MOB-SCN-RSP, MS starts performing ranging against the BSs up to minimal required number, indicated in this parameter.

MS can also initiate LBS by sending MOB-SCN-REQ with this parameter, BS can modify this parameter when sending back MOB-SCN-RSP, based on the user profile.

After ranging enough BS, MS sends ranging results to BS through MOB-SCN-REP message. In case of not enough BS reachable, LBS QoS requirements may be downgraded, which is out of scope of this specification.

<u>Name</u>	<u>Type(1 byte)</u>	<u>Length</u>	<u>Value(variable length)</u>	<u>Scope</u>
<u>Minimal BS Number for LBS Scanning</u>	<u>3</u>	<u>1</u>	<u>The minimal Number of BSs to be scanned to meet the LBS requirement.</u>	<u>MOB-SCN-REQ/MOB-SCN-RSP</u>

## **Backward compatibility**

Legacy mobile station will ignore this Minimal BS Number for LBS Scanning. New mobile stations will perform the scanning based on this TLV. In case of legacy MS, it can still perform the scanning at its own will.