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| Source(s) | Kanchei (Ken) Loa, Yi-Hsueh Tsai, Chih-Chiang Hsieh, Yung-Ting Lee, Hua-Chiang Yin, Shiann-Tsong Sheu, Frank C.D. Tsai, Youn-Tai Lee, Heng-Iang Hsu<br>Institute for Information Industry<br>8F., No. 218, Sec. 2, Dunhua S. Rd., Taipei City, Taiwan.<br><br>Hang Zhang, Peiying Zhu, Mo-Han Fong, Wen Tong,   David Steer, Gamini Senarath, Derek Yu, Mark Naden, G.Q. Wang<br><br>Nortel<br><br>3500 Carling Avenue<br><br>Ottawa, Ontario K2H 8E9<br><br><br>[add co-authors here] | Voice:      +886-2-2739-9616<br>loa@iii.org.tw<br><br><br><br><br>Voice:     +1 613 7631315<br>WenTong@nortel.com<br>pyzhu@nortel.com |
| Re: | IEEE 802.16j-07/007r2: "Call for Technical Comments and Contributions regarding IEEE Project 802.16j" |
| Abstract | This contribution proposes procedures for MS periodic ranging in non-transparent RS |
| Purpose | Text proposal for 802.16j Baseline Document |
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# MS Periodic Ranging in Non-transparent RS System under Distributed Scheduling

## Introduction

This contribution describes MS periodic ranging in non-transparent RS system under distributed scheduling scheme. In order to facilitate the incorporation of this proposal into IEEE 802.16j standard, specific changes to the baseline working document IEEE 802.16j-06/026rx are listed below.

## Text Proposal

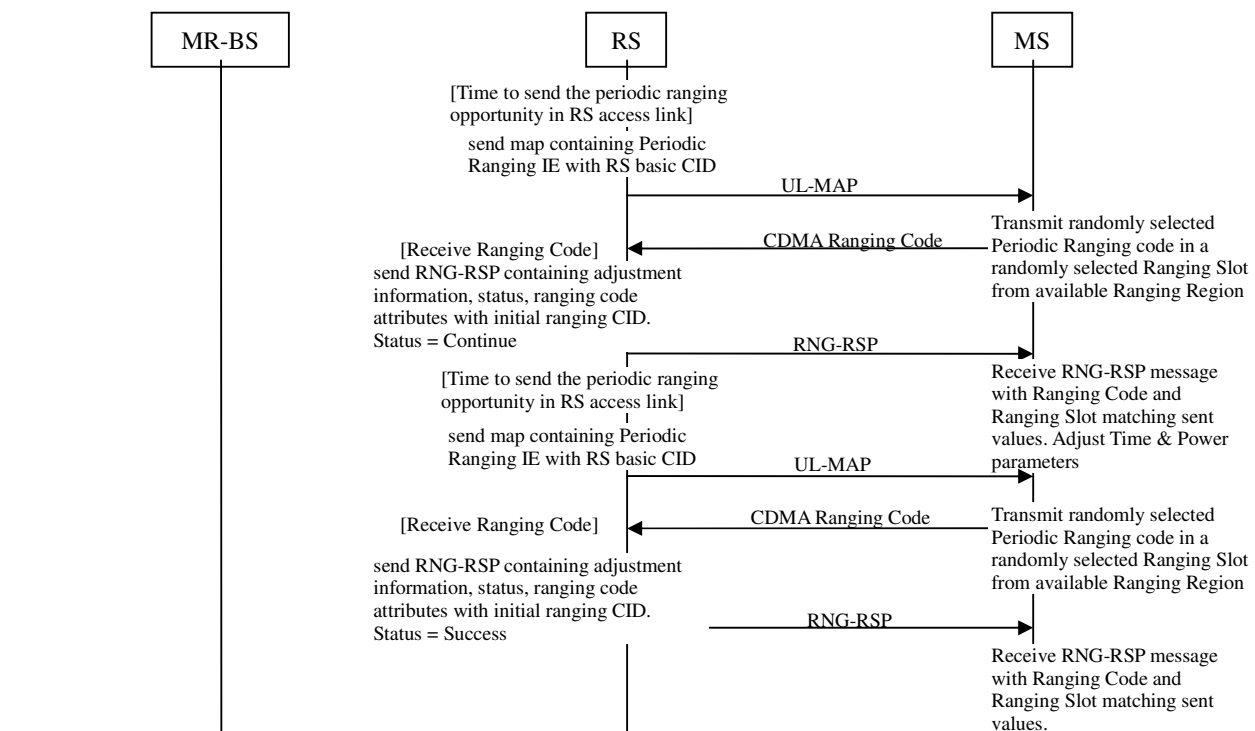[Insert the new subclause 6.3.10.3.4.2.2]

6.3.10.3.4.2.2 Non-transparent RS with Distributed Scheduling

When RS receives the CDMA ranging code, RS shall locally send RNG-RSP to MS on the access link.

The message sequence charts (Table 364 and Table yyy) and flow charts (Figure zzz) define the periodic ranging and adjustment process that shall be followed by compliant RSs and MR-BSs.

*Insert the following rows into Table 364 at 11.5 RNG-REQ TLV:*

Table yyy: Ranging and automatic adjustment procedure in non-transparent RS systems under distributed scheduling

| MR-BS | RS | MS |
|---|---|---|
| | [Time to send the periodic ranging opportunity in RS access link] send map containing Periodic Ranging IE with RS basic CID | |
| | UL-MAP → | |
| | | Transmit randomly selected Periodic Ranging code in a randomly selected Ranging Slot from available Ranging Region |
| | ← CDMA Ranging Code | |
| | [Receive Ranging Code] send RNG-RSP containing adjustment information, status, ranging code attributes with initial ranging CID. Status = Continue | |
| | RNG-RSP → | |
| | | Receive RNG-RSP message with Ranging Code and Ranging Slot matching sent values. Adjust Time & Power parameters |
| | [Time to send the periodic ranging opportunity in RS access link] send map containing Periodic Ranging IE with RS basic CID | |
| | UL-MAP → | |
| | | Transmit randomly selected Periodic Ranging code in a randomly selected Ranging Slot from available Ranging Region |
| | ← CDMA Ranging Code | |
| | [Receive Ranging Code] send RNG-RSP containing adjustment information, status, ranging code attributes with initial ranging CID. Status = Success | |
| | RNG-RSP → | |
| | | Receive RNG-RSP message with Ranging Code and Ranging Slot matching sent values. |

```
         ┌──────────────────────────────────┐
         │   Wait for Periodic Ranging Code  │
         └──────────────────────────────────┘
                          │
                          ▼
         ┌──────────────────────────────────┐
         │       Periodic Ranging Code       │
         └──────────────────────────────────┘
                          │
                          ▼
         ┌──────────────────────────────────┐
         │        Send RNG-RSP to MS         │
         └──────────────────────────────────┘
                          │
                          ▼
              ┌──────────────────────┐
              │         Done          │
              └──────────────────────┘
```
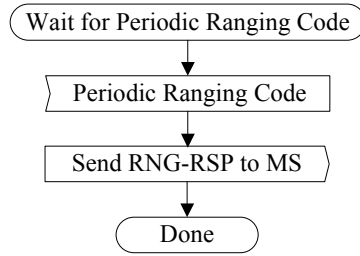
Figure zzz MS CDMA-based periodic ranging in non-transparent RS systems – Access Non-transparent RS