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Title	<b>Connection management of RS with distributed security</b>	
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Source(s)	Hang Zhang, Peiyong Zhu, Mo-Han Fong, Wen Tong, David Steer, Gamini Senarath, G.Q. Wang, Derek Yu, Israfil Bahceci, Robert Sun and Mark Naden Nortel 3500 Carling Avenue Ottawa, Ontario K2H 8E9	Voice: +613-763-1315 E-mail: wentong@nortel.com Voice: +613-765-8983 E-mail: pyzhu@nortel.com
Re:	IEEE P802.16j/D1: IEEE 802.16j working group letter ballot #28	
Abstract	For the distributed security mode, the security materials of a MS are accessible and kept by the access RS of a MS. This contribution is addressing the connection management of an access RS with distributed security.	
Purpose	To incorporate the proposed text into the P802.16j/D1 Baseline Document	
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# Connection management of RS with distributed security

Hang Zhang, Peiying Zhu, Mo-Han Fong, Wen Tong, David Steer, Gamini Senarath, G.Q. Wang,  
Derek Yu, Israfil Bahceci, Robert Sun and Mark Naden

Nortel

## 1. Introduction

In current baseline document, both centralized and distributed security modes are described. In the distributed security mode, the security materials of a MS are accessible and kept by the access RS of a MS. Such an access RS implements MS traffic en/decryption and message authentication functions and MS SDUs are visible to access RS. Therefore, in DL, all SDUs to MSs attached to an access RS can be viewed as SDUs targeting to the access RS. In UL, all received MAC SDUs from MSs by an access RS can be viewed as the SDUs originated from this RS. Thus, the RS can be viewed as a MS and one DL transport connection and one UL transport connection can be established to carry those MS SDUs for traffic forwarding purpose. This contribution is addressing the connection management of an access RS with distributed security.

## 2. Proposal

In current baseline, an access RS can be assigned a basic and a primary connections. For an access RS, one DL and one UL transport connections are also established. These transport connections of an RS are different from transport tunnels connections assigned to the same RS. The transport connections are used to carry MSs SDUs in MPDU format while the tunnel connections are used to carry MPDU in R-MAC format. The main reason of introducing these two transport connections is to utilize the benefit of distributed security (RS is able to process MS traffic at SDUs level) to minimize the encryption overhead. These transport connections of an access RS are established using REG-RSP message at the initialization of an access RS,

## 3. Proposed text change

*[Add the following to the end of section 6.3.1.3]*

+++++ Start text +++++

At the initialization of a RS with the distributed security, in addition to management connections, one DL and one UL transport connections are established using REG-RSP message. These transport connections are used to carry MS SDUs. These transport connections of an RS are different from transport tunnels connections assigned to the same RS. The transport connections are used to carry MSs SDUs in MPDU format while the tunnel connections are used to carry MPDU in R-MAC format.

+++++ End text +++++

*[Insert the following to the end of 6.3.2.3.8]*

+++++ Start text +++++

The REG-RSP may include the following TLV:

**Transport connection CID**

CIDs of one DL and one UL transport connection assigned by a MR-BS to an access RS with distributed

security.

+++++++ End text ++++++

*[Insert the following section 11.7.30 Forwarding connection CID]*

+++++++ Start text ++++++

11.7.30 Transport connection CID

This TLV is used to indicate the assigned CID of forwarding connections by MR-BS to a RS.

<u>Name</u>	<u>Type</u>	<u>Length</u>	<u>Value</u>	<u>Scope</u>
<u>Transport connection CIDs</u>	<u>TBD</u>	<u>4</u>	<u>DL transport connection CID</u> <u>UL transport connection CID</u>	<u>REG-RSP</u>

+++++++ End text ++++++