Project	**IEEE 802.16 Broadband Wireless Access Working Group <http://ieee802.org/16>**	
Title	**Corrections about exact ROHC Operation**	
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Re:	IEEE802.16e-2005	
Abstract	Corrections about exact ROHC operation	
Purpose	Adopt proposed changes	
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Corrections about exact ROHC operation

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Motivation

The existing ROHC capability that is defined in IEEE 802.16e-2005 specification has significant system performance impact to support ROHC operation for real-time applications.

1. Inappropriate ROHC channel parameters negotiation for service applications

In today IEEE 802.16e-2005 specification allows the ROHC capability to be enabled at the network entry of the SS and provides only a partial context parameters negotiated at the service flow level. The current design of the IEEE 802.16e-2005 specification does not provide the appropriate protocol primitives to support the ROHC channel negotiation for a specific set of service applications within the SS. It is necessary to allow the ROHC header compression to be enabled on per ROHC channel of a given service application associated with a service flow. Therefore, the ROHC parameters shall be negotiated on the per service flow basis.

2. Lack of dynamic service flow basis negotiation of the ROHC channel capability

The current IEEE 802.16e-2005 specification restricts the ROHC operation for each application session of the SS to have a separated ROHC context associated with each service flow. Such restriction does not allow the multiplexing multiple ROHC contexts of the SS within the same service flow. Therefore, it wastes the airlink resources to support multiple application sessions of the SS that enable ROHC. In addition, the service application can be dynamically instantiated or terminated at the SS. Hence, it is important to provide a capability to support dynamically negotiated ROHC channel and context parameters on a per service flow basis for the SS.

Proposed Text Changes

[Change the text on page 5 of IEEE802.16e-2005]

IETF RFC 3748, "Extensible Authentication Protocol (EAP)," B. Aboba, L. Blunk, J. Vollbrecht, J. Carlson, H. Levkowetz, June 2004. (http://www.ietf.org/rfc/rfc3748.txt)

IETF RFC 3759, "RObust Header Compression (ROHC): Terminology and Channel Mapping Examples", L-E. Jonsson, April 2004. (http://www.ietf.org/rfc/rfc3759.txt)

IETF RFC 3775, "Mobility Support in IPv6," D. Johnson, C. Perkins, J. Arkko, June 2004 (http://www.ietf.org/rfc/rfc3775.txt)

[Change the last paragraph in 5.2.4.2 as indicated on page 15 of IEEE802.16e-2005]

For IP-header compressed IP over IEEE 802.3/Ethernet, ~~IP header compression and~~ VLAN headers may be included in the classification. In this case, only the IEEE 802.3/IEEE 802.1Q (11.13.19.3.4.8 through 11.13.19.3.4.12) ~~and Compressed IP header (11.13.19.3.4.16, 11.13.19.3.4.18)~~ classification parameters are allowed.

[Change the text in 5.2.7.2 on page 16 of IEEE802.16e-2005]

5.2.7.2 Compressed-IP-Header classifiers

~~Compressed-IP-Header classifiers operate on the context fields of the ROHC- and ECRTP-compressed packets. The IP header compression parameters (11.13.19.3.4.16, 11.13.19.3.4.18) may be used in Compressed-IP-Header classifiers.~~

Term 'ROHC channel' is defined in RFC3095 and further clarified in RFC3759. The 802.16 standard does not attempt to redefine the definition of 'ROHC Channel'.

A single ROHC channel, which may have multiple ROHC contexts, shall have a one-to-one mapping to a single Service Flow (SFID). Since there is a one-one-mapping between a ROHC channel and a SF ID, there is no need to have any additional classifiers associated with that Service Flow. The method of associating a ROHC channel with a Service Flow is left to the implementation. One or more ROHC channels can be established for an SS.

[Insert new subclause 5.2.7.3 on page 16 of IEEE802.16e-2005]

5.2.7.3 ROHC parameters negotiation

For a Service Flow mapped to a ROHC Channel, the ROHC parameters associated with the ROHC Channel shall be negotiated by including the ROHC Parameter Payload TLV (11.13.38) in the DSA-REQ/RSP messages (for a new Service Flow creation) or the DSC-REQ/RSP messages (for an existing Service Flow).

[Add to the table 383 on page 735 of IEEE802.16e-2005]

47	ROHC Parameter Payload

[Delete 11.13.19.3.4.16 on page 743 of IEEE802.16e-2005]

~~11.13.19.3.4.16 Large Context ID for ROHC- or ECRTP-compressed packet or ROHC feedback packet~~

[Change the text in 11.13.19.3.4.17 as indicated on page 743 of IEEE802.16e-2005]

11.13.19.3.4.~~17~~16 Classifier Action Rule

[Delete 11.13.19.3.4.18 on page 744 of IEEE802.16e-2005]

~~11.13.19.3.4.18 Short-format Context ID for ROHC- or ECRTP-compressed packet or ROHC feedback packet~~

[Insert new subclause 11.13.38 on page 751 of IEEE802.16e-2005]

11.13.38 ROHC Parameter Payload

Description: This attribute contains the payload used in the upper ROHC compression layer. The MAC layer does not interpret this attribute.

Type	Length	Value	Scope
[145/146].47	variable	ROHC Parameter Payload	DSA-REQ, DSA-RSP DSC-REQ, DSC-RSP