

5.2 Operations

5.2.2 HA

This section describes the operation in Mobile IPv6 and functional classifications of the function on HA from the viewpoint of the classifications given in section 2.3.

Notes

- "I-D section" gives the corresponding section number in the Mobile IPv6 Internet Draft referred to in section 2.2.
- "I-D section title" gives the section heading in the Mobile IPv6 Internet Draft referred to in section 2.2.
- In the column "Test Priority," "A1" indicates Rank A and Priority 1, "A2" indicates Rank-A and Priority 2, and "B" indicates Rank-B and Priority 2.
- In the column "Function Category," "1" is Normal and "2" is Abnormal.
- In the column "Version 2.0," "x" indicates that the function is to be supported.
- "Reason for Classification" gives the reason for the function's classification. A reason is given when Test Priority is "A2," "B," or "C."

Functional classification and test priority for HA

No.	I-D Section	I-D Section title	Item	Functional Specification	I-D Status	Function al Rank	TEST Priority	Functional Category	Ver2.0		Reason of TEST Priority
									Supported	Test No.	
1	10.1	Conceptual Data Structures		Each home agent MUST maintain a Binding Cache and Home Agents List.	MUST	A	A1	1	X	HA_1_1_5,HA_1_1_6,HA_1_1_7, HA_2_1_1,HA_2_1_2,HA_2_1_3, HA_2_1_4,HA_2_1_5,HA_2_1_6, HA_2_1_7,HA_2_1_8,HA_2_3_1, HA_2_3_2,HA_2_5_1,HA_2_5_2, HA_2_5_3,HA_2_5_4,HA_2_5_5, HA_2_5_6,HA_2_5_7,HA_2_5_8, HA_2_6_1,HA_2_6_2,HA_2_6_3, HA_2_6_4,HA_2_6_5,HA_2_6_6, HA_2_6_7,HA_2_6_8,HA_2_6_9, HA_2_6_10,HA_2_6_11,HA_2_6_12, HA_2_7_1,HA_2_7_2,HA_2_7_3, HA_2_7_4,HA_2_7_5,HA_2_7_6, HA_2_7_7,HA_2_7_8,HA_2_8_1, HA_2_8_2,HA_2_8_3,HA_2_8_4, HA_2_8_5,HA_2_8_6,HA_2_8_7, HA_2_8_8,HA_2_8_9,HA_2_8_10, HA_2_8_11,HA_2_8_12,HA_3_1_1, HA_3_1_2,HA_3_1_3,HA_3_1_4, HA_3_1_5,HA_3_1_6,HA_3_1_7, HA_3_1_8,HA_3_1_9,HA_3_1_10, HA_3_1_11,HA_3_1_12,HA_3_3_1, HA_3_3_2,HA_3_3_3,HA_3_3_4, HA_4_1_1,HA_4_1_2,HA_4_2_1, HA_4_2_2,HA_4_2_3,HA_4_2_4, HA_4_2_5,HA_4_2_6,HA_4_2_7, HA_4_2_8,HA_4_2_9,HA_4_2_10, HA_4_2_11,HA_4_2_12,HA_4_2_13, HA_4_2_14,HA_4_2_15,HA_4_2_16, HA_4_3_1,HA_4_3_2,HA_4_3_3, HA_4_3_4,HA_4_3_5,HA_4_3_6, HA_4_3_7,HA_4_3_8,HA_4_3_9, HA_4_3_10,HA_4_3_11,HA_4_3_12, HA_4_3_13,HA_4_3_14,HA_4_3_15, HA_4_3_16,HA_4_4_1,HA_4_4_2, HA_4_4_3,HA_4_4_4,HA_4_4_5, HA_4_4_6,HA_4_4_7,HA_4_4_8, HA_4_4_9,HA_4_4_13,HA_4_4_14, HA_4_4_15,HA_5_1_1,HA_5_1_2, HA_5_1_3,HA_5_1_4,HA_5_1_5, HA_5_1_6,HA_5_1_7,HA_6_1_1, HA_6_1_2,HA_6_1_3,HA_6_1_4, HA_6_2_1,HA_6_2_2,HA_6_3_1, HA_6_3_2,HA_6_3_3,HA_6_3_4, HA_6_3_5,HA_6_3_6,HA_6_3_7, HA_6_3_8,HA_6_3_9,HA_6_3_10, HA_8_1_1,HA_8_1_2	

Functional classification and test priority for HA

No.	I-D Section	I-D Section title	Item	Functional Specification	I-D Status	Function al Rank	TEST Priority	Functional Category	Ver2.0		Reason of TEST Priority
									Supported	Test No.	
2						A	A2	1	X	HA_7_2_1 HA_7_2_2 HA_7_2_3 HA_7_2_4 HA_7_2_5 HA_7_2_6 HA_7_2_7 HA_7_2_8 HA_7_2_9 HA_7_2_10 HA_7_2_11 HA_7_2_12 HA_7_2_13 HA_7_2_14 HA_7_2_15 HA_7_3_1 HA_7_3_2 HA_7_4_1 HA_7_4_2 HA_7_5_1	virtual home network

Functional classification and test priority for HA

No.	I-D Section	I-D Section title	Item	Functional Specification	I-D Status	Function al Rank	TEST Priority	Functional Category	Ver2.0		Reason of TEST Priority
									Supported	Test No.	
3	10.1			<p><u>The rules for maintaining a Binding Cache are the same for home agents and correspondent nodes, and have already been described in Section 9.1. Section 9.1</u></p> <ul style="list-style-type: none"> <u>o The home address of the mobile node for which this is the Binding Cache entry. This field is used as the key for searching the Binding Cache for the destination address of a packet being sent.</u> <u>o The care-of address for the mobile node indicated by the home address field in this Binding Cache entry.</u> <u>o A lifetime value, indicating the remaining lifetime for this Binding Cache entry. The lifetime value is initialized from the Lifetime field in the Binding Update that created or last modified this Binding Cache entry.</u> <u>o A flag indicating whether or not this Binding Cache entry is a home registration entry (applicable only on nodes which support home agent functionality).</u> <u>o The maximum value of the Sequence Number field received in previous Binding Updates for this home address. The Sequence Number field is 16 bits long. Sequence Number values MUST be compared modulo 2**16 as explained in Section 9.5.1.</u> 	(do)	A	A1	1	X	HA_1_1_5,HA_1_1_6,HA_1_1_7,HA_2_1_1,HA_2_1_2,HA_2_1_3,HA_2_1_4,HA_2_1_5,HA_2_1_6,HA_2_1_7,HA_2_1_8,HA_2_3_1,HA_2_3_2,HA_2_5_1,HA_2_5_2,HA_2_5_3,HA_2_5_4,HA_2_5_5,HA_2_5_6,HA_2_5_7,HA_2_5_8,HA_2_6_1,HA_2_6_2,HA_2_6_3,HA_2_6_4,HA_2_6_5,HA_2_6_6,HA_2_6_7,HA_2_6_8,HA_2_6_9,HA_2_6_10,HA_2_6_11,HA_2_6_12,HA_2_7_1,HA_2_7_2,HA_2_7_3,HA_2_7_4,HA_2_7_5,HA_2_7_6,HA_2_7_7,HA_2_7_8,HA_2_8_1,HA_2_8_2,HA_2_8_3,HA_2_8_4,HA_2_8_5,HA_2_8_6,HA_2_8_7,HA_2_8_8,HA_2_8_9,HA_2_8_10,HA_2_8_11,HA_2_8_12,HA_3_1_1,HA_3_1_2,HA_3_1_3,HA_3_1_4,HA_3_1_5,HA_3_1_6,HA_3_1_7,HA_3_1_8,HA_3_1_9,HA_3_1_10,HA_3_1_11,HA_3_1_12,HA_3_3_1,HA_3_3_2,HA_3_3_3,HA_3_3_4,HA_4_1_1,HA_4_1_2,HA_4_2_1,HA_4_2_2,HA_4_2_3,HA_4_2_4,HA_4_2_5,HA_4_2_6,HA_4_2_7,HA_4_2_8,HA_4_2_9,HA_4_2_10,HA_4_2_11,HA_4_2_12,HA_4_2_13,HA_4_2_14,HA_4_2_15,HA_4_2_16,HA_4_3_1,HA_4_3_2,HA_4_3_3,HA_4_3_4,HA_4_3_5,HA_4_3_6,HA_4_3_7,HA_4_3_8,HA_4_3_9,HA_4_3_10,HA_4_3_11,HA_4_3_12,HA_4_3_13,HA_4_3_14,HA_4_3_15,HA_4_3_16,HA_4_4_1,HA_4_4_2,HA_4_4_3,HA_4_4_4,HA_4_4_5,HA_4_4_6,HA_4_4_7,HA_4_4_8,HA_4_4_9,HA_4_4_13,HA_4_4_14,HA_4_4_15,HA_5_1_1,HA_5_1_2,HA_5_1_3,HA_5_1_4,HA_5_1_5,HA_5_1_6,HA_5_1_7,HA_6_1_1,HA_6_1_2,HA_6_1_3,HA_6_1_4,HA_6_2_1,HA_6_2_2,HA_6_3_1,HA_6_3_2,HA_6_3_3,HA_6_3_4,HA_6_3_5,HA_6_3_6,HA_6_3_7,HA_6_3_8,HA_6_3_9,HA_6_3_10,HA_8_1_1,HA_8_1_2	

Functional classification and test priority for HA

No.	I-D Section	I-D Section title	Item	Functional Specification	I-D Status	Function al Rank	TEST Priority	Functional Category	Ver2.0		Reason of TEST Priority
									Supported	Test No.	
4	10.1			<u>A router is known to be acting as a home agent, if it sends a Router Advertisement in which the Home Agent (H) bit is set. When the lifetime for a list entry (defined below) expires, that entry is removed from the Home Agents List.</u>	(do)	A	A2	1	X	HA_7_2_1 HA_7_2_2 HA_7_2_3 HA_7_2_4 HA_7_2_5 HA_7_2_6 HA_7_2_7 HA_7_2_8 HA_7_2_9 HA_7_2_10 HA_7_2_11 HA_7_2_12 HA_7_2_13 HA_7_2_14 HA_7_2_15 HA_7_3_1 HA_7_3_2 HA_7_4_1 HA_7_4_2 HA_7_5_1	virtual home network
5	10.1			The Home Agents List MAY be implemented in any manner consistent with the external behavior described in this document.	MAY	C	C	-			This function is implementaion-dependent. It does not effect on interoperability.

Functional classification and test priority for HA

No.	I-D Section	I-D Section title	Item	Functional Specification	I-D Status	Function al Rank	TEST Priority	Functional Category	Ver2.0		Reason of TEST Priority
									Supported	Test No.	
6	10.1			<u>Each home agent maintains a separate Home Agents List for each link on which it is serving as a home agent.</u>	(do)	A	A2	1	X	HA_7_2_1 HA_7_2_2 HA_7_2_3 HA_7_2_4 HA_7_2_5 HA_7_2_6 HA_7_2_7 HA_7_2_8 HA_7_2_9 HA_7_2_10 HA_7_2_11 HA_7_2_12 HA_7_2_13 HA_7_2_14 HA_7_2_15 HA_7_3_1 HA_7_3_2 HA_7_4_1 HA_7_4_2 HA_7_5_1	virtual home network

Functional classification and test priority for HA

No.	I-D Section	I-D Section title	Item	Functional Specification	I-D Status	Function al Rank	TEST Priority	Functional Category	Ver2.0		Reason of TEST Priority
									Supported	Test No.	
7	10.1		A new entry is created or an existing entry is updated in response to receipt of a valid Router Advertisement in which the Home Agent (H) bit is set. Each Home Agents List entry conceptually contains the following fields:	<u>○ The link-local IP address of a home agent on the link. This address is learned through the Source Address of the Router Advertisements [12] received from the router.</u>	(do)	A	A2	1	X	HA_7_2_1 HA_7_2_2 HA_7_2_3 HA_7_2_4 HA_7_2_5 HA_7_2_6 HA_7_2_7 HA_7_2_8 HA_7_2_9 HA_7_2_10 HA_7_2_11 HA_7_2_12 HA_7_2_13 HA_7_2_14 HA_7_2_15 HA_7_3_1 HA_7_3_2 HA_7_4_1 HA_7_4_2 HA_7_5_1	virtual home network

Functional classification and test priority for HA

No.	I-D Section	I-D Section title	Item	Functional Specification	I-D Status	Function al Rank	TEST Priority	Functional Category	Ver2.0		Reason of TEST Priority
									Supported	Test No.	
8	10.1			One or more global IP addresses for this home agent. Global addresses are learned through Prefix Information options with the Router Address (R) bit set, received in Router Advertisements from this link-local address. Global addresses for the router in a Home Agents List entry MUST be deleted once the prefix associated with that address is no longer valid [12].	MUST	A	A2	1	X	HA_7_2_1 HA_7_2_2 HA_7_2_3 HA_7_2_4 HA_7_2_5 HA_7_2_6 HA_7_2_7 HA_7_2_8 HA_7_2_9 HA_7_2_10 HA_7_2_11 HA_7_2_12 HA_7_2_13 HA_7_2_14 HA_7_2_15 HA_7_3_1 HA_7_3_2 HA_7_4_1 HA_7_4_2 HA_7_5_1	virtual home network

Functional classification and test priority for HA

No.	I-D Section	I-D Section title	Item	Functional Specification	I-D Status	Function al Rank	TEST Priority	Functional Category	Ver2.0		Reason of TEST Priority
									Supported	Test No.	
9	10.1			The remaining lifetime of this Home Agents List entry. If a Home Agent Information Option is present in a Router Advertisement received from a home agent, the lifetime of the Home Agents List entry representing that home agent is initialized from the Home Agent Lifetime field in the option (if present); otherwise, the lifetime is initialized from the Router Lifetime field in the received Router Advertisement. If Home Agents List entry lifetime reaches zero, the entry MUST be deleted from the Home Agents List.	MUST	A	A2	1	X	HA_7_2_1 HA_7_2_2 HA_7_2_3 HA_7_2_4 HA_7_2_5 HA_7_2_6 HA_7_2_7 HA_7_2_8 HA_7_2_9 HA_7_2_10 HA_7_2_11 HA_7_2_12 HA_7_2_13 HA_7_2_14 HA_7_2_15 HA_7_3_1 HA_7_3_2 HA_7_4_1 HA_7_4_2 HA_7_5_1	virtual home network

Functional classification and test priority for HA

No.	I-D Section	I-D Section title	Item	Functional Specification	I-D Status	Function al Rank	TEST Priority	Functional Category	Ver2.0		Reason of TEST Priority
									Supported	Test No.	
10	10.1			<p><u>The preference for this home agent; higher values indicate a more preferable home agent. The preference value is taken from the Home Agent Preference field in the received Router Advertisement, if the Router Advertisement contains a Home Agent Information Option, and is otherwise set to the default value of 0. A home agent uses this preference in ordering the Home Agents List when it sends an ICMP Home Agent Address Discovery message.</u></p>	(do)	A	A2	1	X	HA_7_2_1 HA_7_2_2 HA_7_2_3 HA_7_2_4 HA_7_2_5 HA_7_2_6 HA_7_2_7 HA_7_2_8 HA_7_2_9 HA_7_2_10 HA_7_2_11 HA_7_2_12 HA_7_2_13 HA_7_2_14 HA_7_2_15 HA_7_3_1 HA_7_3_2 HA_7_4_1 HA_7_4_2 HA_7_5_1	virtual home network

Functional classification and test priority for HA

No.	I-D Section	I-D Section title	Item	Functional Specification	I-D Status	Function al Rank	TEST Priority	Function al Category	Ver2.0		Reason of TEST Priority
									Supported	Test No.	
1	10.2	Processing Mobility Headers		All IPv6 home agents MUST observe the rules described in Section 9.2 when processing Mobility Headers.	MUST	A	A1	1	X	HA_1_1_1 HA_1_1_2 HA_1_1_3 HA_1_1_4 HA_1_1_5 HA_1_1_6 HA_1_1_7 HA_1_1_8 HA_1_1_9 HA_1_1_10	
2	9.2	Processing Mobility Headers	Mobility Header processing MUST observe the following rules:	The checksum must be verified as per Section 6.1. Otherwise, the node MUST silently discard the message.	MUST	A	A1	2	X	HA_1_1_3 HA_1_1_8	
3				The MH Type field MUST have a known value (Section 6.1.1).	MUST	A	A1	1	X	HA_1_1_1 HA_1_1_5	
4				Otherwise, the node MUST discard the message and issue a Binding Error message as described in Section 9.3.3, with Status field set to 2 (unrecognized MH Type value).	MUST	A	A1	2	X	HA_1_1_1 HA_1_1_5	
5				The Payload Proto field MUST be IPPROTO_NONE (59 decimal). Otherwise, the node MUST discard the message and SHOULD send ICMP Parameter Problem [14], Code 0, to the Source Address of the packet.	MUST	A	A1	1	X	HA_1_1_2 HA_1_1_6 HA_1_1_9	
6					MUST	A	A1	2	X	HA_1_1_2 HA_1_1_6 HA_1_1_9	
7					SHOULD	A	A1	2	X	HA_1_1_2 HA_1_1_6 HA_1_1_9	

Functional classification and test priority for HA

8			o The Header Len field in the Mobility Header MUST NOT be less than the length specified for this particular type of message in Section 6.1.	MUST NOT	A	A1	1	X	HA_1_1_4 HA_1_1_7 HA_1_1_10	
9			Otherwise, the node MUST discard the message and SHOULD send ICMP Parameter Problem [14], Code 0, to the Source Address of the packet.	MUST	A	A1	2	X	HA_1_1_4 HA_1_1_7 HA_1_1_10	
10				SHOULD	A	A1	2	X	HA_1_1_4 HA_1_1_7 HA_1_1_10	

Functional classification and test priority for HA

No.	I-D Section	I-D Section title	Item	Functional Specification	I-D Status	Functional Rank	TEST Priority	Functional Category	Ver2.0		Reason of TEST Priority
									Supported	Test No.	
1	10.3.1	Processing Bindings: Primary Care-of Address Registration		<p>When a node receives a Binding Update, it MUST validate it and determine the type of Binding Update according to the steps described in Section 9.5.1.</p> <p>Section 9.5.1</p> <ul style="list-style-type: none"> o The packet MUST contain a unicast routable home address, either in the Home Address option or in the Source Address, if the Home Address option is not present. o The Sequence Number field in the Binding Update is greater than the Sequence Number received in the previous valid Binding Update for this home address, if any. <p>If the receiving node has no Binding Cache entry for the indicated home address, it MUST accept any Sequence Number value in a received Binding Update from this mobile node. This Sequence Number comparison MUST be performed modulo $2^{**}16$, i.e., the number is a free running counter represented modulo 65536. A Sequence Number in a received Binding Update is considered less than or equal to the last received number if its value lies in the range of the last received number and the preceding 32768 values, inclusive.</p>	MUST	A	A1	1	X	HA_2_1_3,HA_2_1_7,HA_2_2_7,HA_2_2_8,HA_2_5_1,HA_2_5_2,HA_2_5_3,HA_2_5_4,HA_2_5_5,HA_2_5_6,HA_2_5_7,HA_2_5_8,HA_2_6_1,HA_2_6_2,HA_2_6_3,HA_2_6_4,HA_2_6_5,HA_2_6_6,HA_2_6_7,HA_2_6_8,HA_2_6_9,HA_2_6_10,HA_2_6_11,HA_2_6_12,HA_2_7_1,HA_2_7_2,HA_2_7_3,HA_2_7_4,HA_2_7_5,HA_2_7_6,HA_2_7_7,HA_2_7_8,HA_2_8_1,HA_2_8_2,HA_2_8_3,HA_2_8_4,HA_2_8_5,HA_2_8_6,HA_2_8_7,HA_2_8_8,HA_2_8_9,HA_2_8_10,HA_2_8_11,HA_2_8_12,HA_3_1_1,HA_3_1_2,HA_3_1_3,HA_3_1_4,HA_3_1_5,HA_3_1_6,HA_3_1_7,HA_3_1_8,HA_3_1_9,HA_3_1_10,HA_3_1_11,HA_3_1_12,HA_3_3_1,HA_3_3_2,HA_3_3_3,HA_3_3_4,HA_4_4_1,HA_4_4_2,HA_4_4_3,HA_4_4_4,HA_4_4_5,HA_4_4_6,HA_4_4_7,HA_4_4_8,HA_4_4_9,HA_4_4_13,HA_4_4_14,HA_4_4_15,HA_5_1_4,HA_5_1_6,HA_6_1_2,HA_6_1_4,HA_6_3_2,HA_6_3_4,HA_6_3_6,HA_6_3_8	
2				Furthermore, it MUST authenticate the Binding Update as described in Section 5.1.	MUST	A	A1	1	X	HA_2_2_3 HA_2_2_6	

Functional classification and test priority for HA

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3				o Else, if the home address for the binding (the Home Address field in the packet's Home Address option) is not an on-link IPv6 address with respect to the home agent's current Prefix List, then the home agent MUST reject the Binding Update and SHOULD return a Binding Acknowledgement to the mobile node, in which the Status field is set to 132 (not home subnet).	MUST	A	A1	2	X	HA_2_2_1 HA_2_2_2	
4					SHOULD	A	A1	2	X	HA_2_2_1 HA_2_2_2	
5				o Else, if the home agent chooses to reject the Binding Update for any other reason (e.g., insufficient resources to serve another mobile node as a home agent), then the home agent SHOULD return a Binding Acknowledgement to the mobile node, in which the Status field is set to an appropriate value to indicate the reason for the rejection.	SHOULD	A	A1	2			
6				o A Home Address destination option MUST be present in the message. It MUST be validated as described in Section 9.3.1 with the following additional rule.	MUST	A	A1	1	X	HA_3_1_4 HA_3_1_9 HA_3_1_5 HA_3_1_10	This function is tested as MN test

Functional classification and test priority for HA

No.	I-D Section	I-D Section title	Item	Functional Specification	I-D Status	Functional Rank	TEST Priority	Functional Category	Ver2.0		Reason of TEST Priority
									Supported	Test No.	
7				<p><u>The Binding Cache entry existence test MUST NOT be done for IPsec packets when the Home Address option contains an address for which the receiving node could act as a home agent.</u></p> <p>Section 9.3.1 Packets containing a Home Address option MUST be dropped if the given home address is not a unicast routable address.</p>	MUST	A	A1	1	X	HA_1_1,5.HA_1_1_6.HA_1_1_7. HA_2_1_1.HA_2_1_2.HA_2_1_3. HA_2_1_4.HA_2_1_5.HA_2_1_6. HA_2_1_7.HA_2_1_8.HA_2_3_1. HA_2_3_2.HA_2_5_1.HA_2_5_2. HA_2_5_3.HA_2_5_4.HA_2_5_5. HA_2_5_6.HA_2_5_7.HA_2_5_8. HA_2_6_1.HA_2_6_2.HA_2_6_3. HA_2_6_4.HA_2_6_5.HA_2_6_6. HA_2_6_7.HA_2_6_8.HA_2_6_9. HA_2_6_10.HA_2_6_11.HA_2_6_12. HA_2_7_1.HA_2_7_2.HA_2_7_3. HA_2_7_4.HA_2_7_5.HA_2_7_6. HA_2_7_7.HA_2_7_8.HA_2_8_1. HA_2_8_2.HA_2_8_3.HA_2_8_4. HA_2_8_5.HA_2_8_6.HA_2_8_7. HA_2_8_8.HA_2_8_9.HA_2_8_10. HA_2_8_11.HA_2_8_12.HA_3_1_1. HA_3_1_2.HA_3_1_3.HA_3_1_4. HA_3_1_5.HA_3_1_6.HA_3_1_7. HA_3_1_8.HA_3_1_9.HA_3_1_10. HA_3_1_11.HA_3_1_12.HA_3_3_1. HA_3_3_2.HA_3_3_3.HA_3_3_4. HA_4_1_1.HA_4_1_2.HA_4_2_1. HA_4_2_2.HA_4_2_3.HA_4_2_4. HA_4_2_5.HA_4_2_6.HA_4_2_7. HA_4_2_8.HA_4_2_9.HA_4_2_10. HA_4_2_11.HA_4_2_12.HA_4_2_13. HA_4_2_14.HA_4_2_15.HA_4_2_16. HA_4_3_1.HA_4_3_2.HA_4_3_3. HA_4_3_4.HA_4_3_5.HA_4_3_6. HA_4_3_7.HA_4_3_8.HA_4_3_9. HA_4_3_10.HA_4_3_11.HA_4_3_12. HA_4_3_13.HA_4_3_14.HA_4_3_15. HA_4_3_16.HA_4_4_1.HA_4_4_2. HA_4_4_3.HA_4_4_4.HA_4_4_5. HA_4_4_6.HA_4_4_7.HA_4_4_8. HA_4_4_9.HA_4_4_13.HA_4_4_14. HA_4_4_15.HA_5_1_1.HA_5_1_2. HA_5_1_3.HA_5_1_4.HA_5_1_5. HA_5_1_6.HA_5_1_7.HA_6_1_1. HA_6_1_2.HA_6_1_3.HA_6_1_4. HA_6_2_1.HA_6_2_2.HA_6_3_1. HA_6_3_2.HA_6_3_3.HA_6_3_4. HA_6_3_5.HA_6_3_6.HA_6_3_7. HA_6_3_8.HA_6_3_9.HA_6_3_10. HA_8_1_1.HA_8_1_2	This function is tested as MN test
8					MUST NOT	A	A1	2	X	HA_2_2_9 HA_2_2_10 HA_2_2_11 HA_2_2_12	

Functional classification and test priority for HA

No.	I-D Section	I-D Section title	Item	Functional Specification	I-D Status	Functional Rank	TEST Priority	Functional Category	Ver2.0		Reason of TEST Priority
									Supported	Test No.	
9				If home agent accepts the Binding Update, it MUST then create a new entry in its Binding Cache for this mobile node, or update its existing Binding Cache entry, if such an entry already exists. The Home Address field as received in the Home Address option provides the home address of the mobile node.	MUST	A	A1	1	X	HA_1_1_5,HA_1_1_6,HA_1_1_7, HA_2_1_1,HA_2_1_2,HA_2_1_3, HA_2_1_4,HA_2_1_5,HA_2_1_6, HA_2_1_7,HA_2_1_8,HA_2_3_1, HA_2_3_2,HA_2_5_1,HA_2_5_2, HA_2_5_3,HA_2_5_4,HA_2_5_5, HA_2_5_6,HA_2_5_7,HA_2_5_8, HA_2_6_1,HA_2_6_2,HA_2_6_3, HA_2_6_4,HA_2_6_5,HA_2_6_6, HA_2_6_7,HA_2_6_8,HA_2_6_9, HA_2_6_10,HA_2_6_11,HA_2_6_12, HA_2_7_1,HA_2_7_2,HA_2_7_3, HA_2_7_4,HA_2_7_5,HA_2_7_6, HA_2_7_7,HA_2_7_8,HA_2_8_1, HA_2_8_2,HA_2_8_3,HA_2_8_4, HA_2_8_5,HA_2_8_6,HA_2_8_7, HA_2_8_8,HA_2_8_9,HA_2_8_10, HA_2_8_11,HA_2_8_12,HA_3_1_1, HA_3_1_2,HA_3_1_3,HA_3_1_4, HA_3_1_5,HA_3_1_6,HA_3_1_7, HA_3_1_8,HA_3_1_9,HA_3_1_10, HA_3_1_11,HA_3_1_12,HA_3_3_1, HA_3_3_2,HA_3_3_3,HA_3_3_4, HA_4_1_1,HA_4_1_2,HA_4_2_1, HA_4_2_2,HA_4_2_3,HA_4_2_4, HA_4_2_5,HA_4_2_6,HA_4_2_7, HA_4_2_8,HA_4_2_9,HA_4_2_10, HA_4_2_11,HA_4_2_12,HA_4_2_13, HA_4_2_14,HA_4_2_15,HA_4_2_16, HA_4_3_1,HA_4_3_2,HA_4_3_3, HA_4_3_4,HA_4_3_5,HA_4_3_6, HA_4_3_7,HA_4_3_8,HA_4_3_9, HA_4_3_10,HA_4_3_11,HA_4_3_12, HA_4_3_13,HA_4_3_14,HA_4_3_15, HA_4_3_16,HA_4_4_1,HA_4_4_2, HA_4_4_3,HA_4_4_4,HA_4_4_5, HA_4_4_6,HA_4_4_7,HA_4_4_8, HA_4_4_9,HA_4_4_13,HA_4_4_14, HA_4_4_15,HA_5_1_1,HA_5_1_2, HA_5_1_3,HA_5_1_4,HA_5_1_5, HA_5_1_6,HA_5_1_7,HA_6_1_1, HA_6_1_2,HA_6_1_3,HA_6_1_4, HA_6_2_1,HA_6_2_2,HA_6_3_1, HA_6_3_2,HA_6_3_3,HA_6_3_4, HA_6_3_5,HA_6_3_6,HA_6_3_7, HA_6_3_8,HA_6_3_9,HA_6_3_10, HA_8_1_1,HA_8_1_2	

Functional classification and test priority for HA

No.	I-D Section	I-D Section title	Item	Functional Specification	I-D Status	Functional Rank	TEST Priority	Functional Category	Ver2.0		Reason of TEST Priority
									Supported	Test No.	
10				<p>The home agent MUST mark this Binding Cache entry as a home registration to indicate that the node is serving as a home agent for this binding. <u>Binding Cache entries marked as a home registration MUST be excluded from the normal cache replacement policy used for the Binding Cache (Section 9.6) and MUST NOT be removed from the Binding Cache until the expiration of the Lifetime period.</u></p> <p>Section 9.6 Each node's Binding Cache will, by necessity, have a finite size. A node MAY use any reasonable local policy for managing the space within its Binding Cache, except that any entry marked as a home registration (Section 10.3.1) MUST NOT be deleted from the cache until the expiration of its lifetime period. When such home registration entries are deleted, the home agent MUST also cease intercepting packets on the mobile node's home link addressed to the mobile node (Section 10.4.1), just as if the mobile node had de-registered its primary care-of address (see Section 10.3.2).</p>	MUST	A	A1	1	X	HA_1_1_5,HA_1_1_6,HA_1_1_7,HA_2_1_1,HA_2_1_2,HA_2_1_3,HA_2_1_4,HA_2_1_5,HA_2_1_6,HA_2_1_7,HA_2_1_8,HA_2_3_1,HA_2_3_2,HA_2_5_1,HA_2_5_2,HA_2_5_3,HA_2_5_4,HA_2_5_5,HA_2_5_6,HA_2_5_7,HA_2_5_8,HA_2_6_1,HA_2_6_2,HA_2_6_3,HA_2_6_4,HA_2_6_5,HA_2_6_6,HA_2_6_7,HA_2_6_8,HA_2_6_9,HA_2_6_10,HA_2_6_11,HA_2_6_12,HA_2_7_1,HA_2_7_2,HA_2_7_3,HA_2_7_4,HA_2_7_5,HA_2_7_6,HA_2_7_7,HA_2_7_8,HA_2_8_1,HA_2_8_2,HA_2_8_3,HA_2_8_4,HA_2_8_5,HA_2_8_6,HA_2_8_7,HA_2_8_8,HA_2_8_9,HA_2_8_10,HA_2_8_11,HA_2_8_12,HA_3_1_1,HA_3_1_2,HA_3_1_3,HA_3_1_4,HA_3_1_5,HA_3_1_6,HA_3_1_7,HA_3_1_8,HA_3_1_9,HA_3_1_10,HA_3_1_11,HA_3_1_12,HA_3_3_1,HA_3_3_2,HA_3_3_3,HA_3_3_4,HA_4_1_1,HA_4_1_2,HA_4_2_1,HA_4_2_2,HA_4_2_3,HA_4_2_4,HA_4_2_5,HA_4_2_6,HA_4_2_7,HA_4_2_8,HA_4_2_9,HA_4_2_10,HA_4_2_11,HA_4_2_12,HA_4_2_13,HA_4_2_14,HA_4_2_15,HA_4_2_16,HA_4_3_1,HA_4_3_2,HA_4_3_3,HA_4_3_4,HA_4_3_4,HA_4_3_5,HA_4_3_6,HA_4_3_7,HA_4_3_8,HA_4_3_9,HA_4_3_10,HA_4_3_11,HA_4_3_12,HA_4_3_13,HA_4_3_14,HA_4_3_15,HA_4_3_16,HA_4_4_1,HA_4_4_2,HA_4_4_3,HA_4_4_4,HA_4_4_5,HA_4_4_6,HA_4_4_7,HA_4_4_8,HA_4_4_9,HA_4_4_13,HA_4_4_14,HA_4_4_15,HA_5_1_1,HA_5_1_2,HA_5_1_3,HA_5_1_4,HA_5_1_5,HA_5_1_6,HA_5_1_7,HA_6_1_1,HA_6_1_2,HA_6_1_3,HA_6_1_4,HA_6_2_1,HA_6_2_2,HA_6_3_1,HA_6_3_2,HA_6_3_3,HA_6_3_4,HA_6_3_5,HA_6_3_6,HA_6_3_7,HA_6_3_8,HA_6_3_9,HA_6_3_10,HA_8_1_1,HA_8_1_2	
11				When attempting to add a new home registration entry in response to a Binding Update with the Home Registra	MUST	A	A2	1	X	HA_2_1_4 HA_2_1_8	Cache Replacement Policy
12					MUST NOT	A	A2	1	X	HA_2_1_4 HA_2_1_8	Cache Replacement Policy

Functional classification and test priority for HA

No.	I-D Section	I-D Section title	Item	Functional Specification	I-D Status	Functional Rank	TEST Priority	Functional Category	Ver2.0		Reason of TEST Priority
									Supported	Test No.	
13				Unless this home agent already has a binding for the given home address, the home agent MUST perform Duplicate Address Detection [13] on the mobile node's home link before returning the Binding Acknowledgement. This ensures that no other node on the home link was using the mobile node's home address when the Binding Update arrived. If this Duplicate Address Detection fails for the given home address or an associated link local address, then the home agent MUST reject the complete Binding Update and MUST return a Binding Acknowledgement to the mobile node, in which the Status field is set to 134 (Duplicate Address Detection failed). When the home agent sends a successful Binding Acknowledgement to the mobile node, the home agent assures to the mobile node that its address(es) will continue to be kept unique by the home agent at least as long as the lifetime granted for the bindings is not over.	MUST	A	A2	1	X	HA_2_3_1 HA_2_3_2	virtual home network
14					MUST	A	A2	2	X	HA_2_4_1 HA_2_4_2 HA_2_4_3 HA_2_4_4 HA_2_4_5 HA_2_4_6	virtual home network
15					MUST	A	A2	2	X	HA_2_4_1 HA_2_4_2 HA_2_4_3 HA_2_4_4 HA_2_4_5 HA_2_4_6	virtual home network

Functional classification and test priority for HA

No.	I-D Section	I-D Section title	Item	Functional Specification	I-D Status	Functional Rank	TEST Priority	Functional Category	Ver2.0		Reason of TEST Priority
									Supported	Test No.	
16			The specific addresses which are to be tested before accepting the Binding Update, and later to be defended by performing Duplicate Address Detection,	<u>o L=0: Defend only the given address. Do not derive a link-local address.</u>	(do)	A	A2	1	X	HA_2_3_1 HA_2_4_1 HA_2_4_4 HA_4_1_1 HA_4_2_1 HA_4_2_2 HA_4_2_3 HA_4_2_13 HA_4_4_1 HA_4_4_2 HA_4_4_3 HA_4_4_13	virtual home network
17			depend on the settings of the Single Address Only (S) and Link-Local Address Compatibility (L) bits, as follows:	<u>o L=1: Defend both the given non link-local unicast (home) address and the derived link-local. The link-local address is derived by replacing the subnet prefix in the mobile node's home address with the link-local prefix.</u>	(do)	A	A2	1	X	HA_2_3_2 HA_2_4_2 HA_2_4_3 HA_2_4_5 HA_2_4_6 HA_4_1_2 HA_4_2_4 HA_4_2_5 HA_4_2_6 HA_4_2_7 HA_4_2_8 HA_4_2_9 HA_4_2_14 HA_4_2_15 HA_4_4_4 HA_4_4_5 HA_4_4_6 HA_4_4_7 HA_4_4_8 HA_4_4_9 HA_4_4_14 HA_4_4_15	virtual home network

Functional classification and test priority for HA

No.	I-D Section	I-D Section title	Item	Functional Specification	I-D Status	Functional Rank	TEST Priority	Functional Category	Ver2.0		Reason of TEST Priority
									Supported	Test No.	
18			The lifetime of the Binding Cache entry depends on a number of factors:	o The lifetime for the Binding Cache entry MUST NOT be greater than the Lifetime value specified in the Binding Update.	MUST NOT	A	A1	1	X	HA_1_1_5,HA_1_1_6,HA_1_1_7,HA_2_1_1,HA_2_1_2,HA_2_1_3,HA_2_1_4,HA_2_1_5,HA_2_1_6,HA_2_1_7,HA_2_1_8,HA_2_3_1,HA_2_3_2,HA_2_5_1,HA_2_5_2,HA_2_5_3,HA_2_5_4,HA_2_5_5,HA_2_5_6,HA_2_5_7,HA_2_5_8,HA_2_6_1,HA_2_6_2,HA_2_6_3,HA_2_6_4,HA_2_6_5,HA_2_6_6,HA_2_6_7,HA_2_6_8,HA_2_6_9,HA_2_6_10,HA_2_6_11,HA_2_6_12,HA_2_7_1,HA_2_7_2,HA_2_7_3,HA_2_7_4,HA_2_7_5,HA_2_7_6,HA_2_7_7,HA_2_7_8,HA_2_8_1,HA_2_8_2,HA_2_8_3,HA_2_8_4,HA_2_8_5,HA_2_8_6,HA_2_8_7,HA_2_8_8,HA_2_8_9,HA_2_8_10,HA_2_8_11,HA_2_8_12,HA_3_1_1,HA_3_1_2,HA_3_1_3,HA_3_1_4,HA_3_1_5,HA_3_1_6,HA_3_1_7,HA_3_1_8,HA_3_1_9,HA_3_1_10,HA_3_1_11,HA_3_1_12,HA_3_3_1,HA_3_3_2,HA_3_3_3,HA_3_3_4,HA_4_1_1,HA_4_1_2,HA_4_2_1,HA_4_2_2,HA_4_2_3,HA_4_2_4,HA_4_2_5,HA_4_2_6,HA_4_2_7,HA_4_2_8,HA_4_2_9,HA_4_2_10,HA_4_2_11,HA_4_2_12,HA_4_2_13,HA_4_2_14,HA_4_2_15,HA_4_2_16,HA_4_3_1,HA_4_3_2,HA_4_3_3,HA_4_3_4,HA_4_3_5,HA_4_3_6,HA_4_3_7,HA_4_3_8,HA_4_3_9,HA_4_3_10,HA_4_3_11,HA_4_3_12,HA_4_3_13,HA_4_3_14,HA_4_3_15,HA_4_3_16,HA_4_4_1,HA_4_4_2,HA_4_4_3,HA_4_4_4,HA_4_4_5,HA_4_4_6,HA_4_4_7,HA_4_4_8,HA_4_4_9,HA_4_4_13,HA_4_4_14,HA_4_4_15,HA_5_1_1,HA_5_1_2,HA_5_1_3,HA_5_1_4,HA_5_1_5,HA_5_1_6,HA_5_1_7,HA_6_1_1,HA_6_1_2,HA_6_1_3,HA_6_1_4,HA_6_2_1,HA_6_2_2,HA_6_3_1,HA_6_3_2,HA_6_3_3,HA_6_3_4,HA_6_3_5,HA_6_3_6,HA_6_3_7,HA_6_3_8,HA_6_3_9,HA_6_3_10,HA_8_1_1,HA_8_1_2	
19				o The lifetime for the Binding Cache entry MUST NOT be greater than the remaining valid lifetime for the subnet	MUST NOT	A	A1	1	X	HA_2_1_9	

Functional classification and test priority for HA

No.	I-D Section	I-D Section title	Item	Functional Specification	I-D Status	Functional Rank	TEST Priority	Functional Category	Ver2.0		Reason of TEST Priority
									Supported	Test No.	
20				prefix in the mobile node's home address specified with the Binding Update. The remaining valid lifetime for this prefix is determined by the home agent based on its own Prefix List entry for this prefix [12].	SHOULD NOT	A	A1	1	X	HA_2_1_9	This function is implementaion-dependent. It does not effect on interoperability
21				The remaining preferred lifetime SHOULD NOT have any impact on the lifetime for the binding cache entry. The home agent MUST remove a binding when the valid lifetime of the prefix associated with it expires.	MUST	A	A1	1	X	HA_2_1_9	This function is implementaion-dependent. It does not effect on interoperability

Functional classification and test priority for HA

No.	I-D Section	I-D Section title	Item	Functional Specification	I-D Status	Functional Rank	TEST Priority	Functional Category	Ver2.0		Reason of TEST Priority
									Supported	Test No.	
22				o The home agent MAY further decrease the specified lifetime for the binding, for example based on a local policy. The resulting lifetime is stored by the home agent in the Binding Cache entry, and this Binding Cache entry MUST be deleted by the home agent after the expiration of this lifetime.	MAY	C	C	1	X	HA_1_1_5,HA_1_1_6,HA_1_1_7,HA_2_1_1,HA_2_1_2,HA_2_1_3,HA_2_1_4,HA_2_1_5,HA_2_1_6,HA_2_1_7,HA_2_1_8,HA_2_3_1,HA_2_3_2,HA_2_5_1,HA_2_5_2,HA_2_5_3,HA_2_5_4,HA_2_5_5,HA_2_5_6,HA_2_5_7,HA_2_5_8,HA_2_6_1,HA_2_6_2,HA_2_6_3,HA_2_6_4,HA_2_6_5,HA_2_6_6,HA_2_6_7,HA_2_6_8,HA_2_6_9,HA_2_6_10,HA_2_6_11,HA_2_6_12,HA_2_7_1,HA_2_7_2,HA_2_7_3,HA_2_7_4,HA_2_7_5,HA_2_7_6,HA_2_7_7,HA_2_7_8,HA_2_8_1,HA_2_8_2,HA_2_8_3,HA_2_8_4,HA_2_8_5,HA_2_8_6,HA_2_8_7,HA_2_8_8,HA_2_8_9,HA_2_8_10,HA_2_8_11,HA_2_8_12,HA_3_1_1,HA_3_1_2,HA_3_1_3,HA_3_1_4,HA_3_1_5,HA_3_1_6,HA_3_1_7,HA_3_1_8,HA_3_1_9,HA_3_1_10,HA_3_1_11,HA_3_1_12,HA_3_3_1,HA_3_3_2,HA_3_3_3,HA_3_3_4,HA_4_1_1,HA_4_1_2,HA_4_2_1,HA_4_2_2,HA_4_2_3,HA_4_2_4,HA_4_2_5,HA_4_2_6,HA_4_2_7,HA_4_2_8,HA_4_2_9,HA_4_2_10,HA_4_2_11,HA_4_2_12,HA_4_2_13,HA_4_2_14,HA_4_2_15,HA_4_2_16,HA_4_3_1,HA_4_3_2,HA_4_3_3,HA_4_3_4,HA_4_3_5,HA_4_3_6,HA_4_3_7,HA_4_3_8,HA_4_3_9,HA_4_3_10,HA_4_3_11,HA_4_3_12,HA_4_3_13,HA_4_3_14,HA_4_3_15,HA_4_3_16,HA_4_4_1,HA_4_4_2,HA_4_4_3,HA_4_4_4,HA_4_4_5,HA_4_4_6,HA_4_4_7,HA_4_4_8,HA_4_4_9,HA_4_4_13,HA_4_4_14,HA_4_4_15,HA_5_1_1,HA_5_1_2,HA_5_1_3,HA_5_1_4,HA_5_1_5,HA_5_1_6,HA_5_1_7,HA_6_1_1,HA_6_1_2,HA_6_1_3,HA_6_1_4,HA_6_2_1,HA_6_2_2,HA_6_3_1,HA_6_3_2,HA_6_3_3,HA_6_3_4,HA_6_3_5,HA_6_3_6,HA_6_3_7,HA_6_3_8,HA_6_3_9,HA_6_3_10,HA_8_1_1,HA_8_1_2	This function is implementaion-dependent. It does not effect on interoperability
23					MUST	A	A1	1	X	HA_2_1_4 HA_2_1_8	

Functional classification and test priority for HA

No.	I-D Section	I-D Section title	Item	Functional Specification	I-D Status	Functional Rank	TEST Priority	Functional Category	Ver2.0		Reason of TEST Priority
									Supported	Test No.	
24			Regardless of the setting of the Acknowledge (A) bit in the Binding Update, the home agent MUST return a Binding Acknowledgement to the mobile node, constructed as follows:	o The Status field MUST be set to a value indicating success. The value 1 (accepted but prefix discovery necessary) MUST be used if the subnet prefix of the specified home address is deprecated, becomes deprecated during the lifetime of the binding, or becomes invalid at the end of the lifetime. The value 0 MUST be used otherwise. For the purposes of comparing the binding and prefix lifetimes, the prefix lifetimes are first converted into units of four seconds by ignoring the two least significant bits.	MUST	A	A1	1	X	HA_1_1_5,HA_1_1_6,HA_1_1_7,HA_2_1_1,HA_2_1_2,HA_2_1_3,HA_2_1_4,HA_2_1_5,HA_2_1_6,HA_2_1_7,HA_2_1_8,HA_2_3_1,HA_2_3_2,HA_2_5_1,HA_2_5_2,HA_2_5_3,HA_2_5_4,HA_2_5_5,HA_2_5_6,HA_2_5_7,HA_2_5_8,HA_2_6_1,HA_2_6_2,HA_2_6_3,HA_2_6_4,HA_2_6_5,HA_2_6_6,HA_2_6_7,HA_2_6_8,HA_2_6_9,HA_2_6_10,HA_2_6_11,HA_2_6_12,HA_2_7_1,HA_2_7_2,HA_2_7_3,HA_2_7_4,HA_2_7_5,HA_2_7_6,HA_2_7_7,HA_2_7_8,HA_2_8_1,HA_2_8_2,HA_2_8_3,HA_2_8_4,HA_2_8_5,HA_2_8_6,HA_2_8_7,HA_2_8_8,HA_2_8_9,HA_2_8_10,HA_2_8_11,HA_2_8_12,HA_3_1_1,HA_3_1_2,HA_3_1_3,HA_3_1_4,HA_3_1_5,HA_3_1_6,HA_3_1_7,HA_3_1_8,HA_3_1_9,HA_3_1_10,HA_3_1_11,HA_3_1_12,HA_3_3_1,HA_3_3_2,HA_3_3_3,HA_3_3_4,HA_4_1_1,HA_4_1_2,HA_4_2_1,HA_4_2_2,HA_4_2_3,HA_4_2_4,HA_4_2_5,HA_4_2_6,HA_4_2_7,HA_4_2_8,HA_4_2_9,HA_4_2_10,HA_4_2_11,HA_4_2_12,HA_4_2_13,HA_4_2_14,HA_4_2_15,HA_4_2_16,HA_4_3_1,HA_4_3_2,HA_4_3_3,HA_4_3_4,HA_4_3_4,HA_4_3_5,HA_4_3_6,HA_4_3_7,HA_4_3_8,HA_4_3_9,HA_4_3_10,HA_4_3_11,HA_4_3_12,HA_4_3_13,HA_4_3_14,HA_4_3_15,HA_4_3_16,HA_4_4_1,HA_4_4_2,HA_4_4_3,HA_4_4_4,HA_4_4_5,HA_4_4_6,HA_4_4_7,HA_4_4_8,HA_4_4_9,HA_4_4_13,HA_4_4_14,HA_4_4_15,HA_5_1_1,HA_5_1_2,HA_5_1_3,HA_5_1_4,HA_5_1_5,HA_5_1_6,HA_5_1_7,HA_6_1_1,HA_6_1_2,HA_6_1_3,HA_6_1_4,HA_6_2_1,HA_6_2_2,HA_6_3_1,HA_6_3_2,HA_6_3_3,HA_6_3_4,HA_6_3_5,HA_6_3_6,HA_6_3_7,HA_6_3_8,HA_6_3_9,HA_6_3_10,HA_8_1_1,HA_8_1_2	
25					MUST	A	A1	2			internal behavior router renumbering implementation matter

Functional classification and test priority for HA

No.	I-D Section	I-D Section title	Item	Functional Specification	I-D Status	Functional Rank	TEST Priority	Functional Category	Ver2.0		Reason of TEST Priority
									Supported	Test No.	
26					MUST	A	A1	1	X	HA_1_1_5,HA_1_1_6,HA_1_1_7, HA_2_1_1,HA_2_1_2,HA_2_1_3, HA_2_1_4,HA_2_1_5,HA_2_1_6, HA_2_1_7,HA_2_1_8,HA_2_3_1, HA_2_3_2,HA_2_5_1,HA_2_5_2, HA_2_5_3,HA_2_5_4,HA_2_5_5, HA_2_5_6,HA_2_5_7,HA_2_5_8, HA_2_6_1,HA_2_6_2,HA_2_6_3, HA_2_6_4,HA_2_6_5,HA_2_6_6, HA_2_6_7,HA_2_6_8,HA_2_6_9, HA_2_6_10,HA_2_6_11,HA_2_6_12, HA_2_7_1,HA_2_7_2,HA_2_7_3, HA_2_7_4,HA_2_7_5,HA_2_7_6, HA_2_7_7,HA_2_7_8,HA_2_8_1, HA_2_8_2,HA_2_8_3,HA_2_8_4, HA_2_8_5,HA_2_8_6,HA_2_8_7, HA_2_8_8,HA_2_8_9,HA_2_8_10, HA_2_8_11,HA_2_8_12,HA_3_1_1, HA_3_1_2,HA_3_1_3,HA_3_1_4, HA_3_1_5,HA_3_1_6,HA_3_1_7, HA_3_1_8,HA_3_1_9,HA_3_1_10, HA_3_1_11,HA_3_1_12,HA_3_3_1, HA_3_3_2,HA_3_3_3,HA_3_3_4, HA_4_1_1,HA_4_1_2,HA_4_2_1, HA_4_2_2,HA_4_2_3,HA_4_2_4, HA_4_2_5,HA_4_2_6,HA_4_2_7, HA_4_2_8,HA_4_2_9,HA_4_2_10, HA_4_2_11,HA_4_2_12,HA_4_2_13, HA_4_2_14,HA_4_2_15,HA_4_2_16, HA_4_3_1,HA_4_3_2,HA_4_3_3, HA_4_3_4,HA_4_3_5,HA_4_3_6, HA_4_3_7,HA_4_3_8,HA_4_3_9, HA_4_3_10,HA_4_3_11,HA_4_3_12, HA_4_3_13,HA_4_3_14,HA_4_3_15, HA_4_3_16,HA_4_4_1,HA_4_4_2, HA_4_4_3,HA_4_4_4,HA_4_4_5, HA_4_4_6,HA_4_4_7,HA_4_4_8, HA_4_4_9,HA_4_4_13,HA_4_4_14, HA_4_4_15,HA_5_1_1,HA_5_1_2, HA_5_1_3,HA_5_1_4,HA_5_1_5, HA_5_1_6,HA_5_1_7,HA_6_1_1, HA_6_1_2,HA_6_1_3,HA_6_1_4, HA_6_2_1,HA_6_2_2,HA_6_3_1, HA_6_3_2,HA_6_3_3,HA_6_3_4, HA_6_3_5,HA_6_3_6,HA_6_3_7, HA_6_3_8,HA_6_3_9,HA_6_3_10, HA_8_1_1,HA_8_1_2	

Functional classification and test priority for HA

No.	I-D Section	I-D Section title	Item	Functional Specification	I-D Status	Functional Rank	TEST Priority	Functional Category	Ver2.0		Reason of TEST Priority
									Supported	Test No.	
27				<p><u>o The Key Management Mobility Capability (K) bit is set if the following conditions are all fulfilled, and cleared otherwise:</u></p> <p><u>*1 The Key Management Mobility Capability (K) bit was set in the Binding Update.</u></p> <p><u>*2 The IPsec security associations between the mobile node and the home agent have been established dynamically.</u></p> <p><u>*3 The home agent has the capability to update its endpoint in the used key management protocol to the new care-of address every time it moves</u></p>	(do)	A	A2	1	X	HA_1_1_5,HA_1_1_6,HA_1_1_7,HA_2_1_1,HA_2_1_2,HA_2_1_3,HA_2_1_4,HA_2_1_5,HA_2_1_6,HA_2_1_7,HA_2_1_8,HA_2_3_1,HA_2_3_2,HA_2_5_1,HA_2_5_2,HA_2_5_3,HA_2_5_4,HA_2_5_5,HA_2_5_6,HA_2_5_7,HA_2_5_8,HA_2_6_1,HA_2_6_2,HA_2_6_3,HA_2_6_4,HA_2_6_5,HA_2_6_6,HA_2_6_7,HA_2_6_8,HA_2_6_9,HA_2_6_10,HA_2_6_11,HA_2_6_12,HA_2_7_1,HA_2_7_2,HA_2_7_3,HA_2_7_4,HA_2_7_5,HA_2_7_6,HA_2_7_7,HA_2_7_8,HA_2_8_1,HA_2_8_2,HA_2_8_3,HA_2_8_4,HA_2_8_5,HA_2_8_6,HA_2_8_7,HA_2_8_8,HA_2_8_9,HA_2_8_10,HA_2_8_11,HA_2_8_12,HA_3_1_1,HA_3_1_2,HA_3_1_3,HA_3_1_4,HA_3_1_5,HA_3_1_6,HA_3_1_7,HA_3_1_8,HA_3_1_9,HA_3_1_10,HA_3_1_11,HA_3_1_12,HA_3_3_1,HA_3_3_2,HA_3_3_3,HA_3_3_4,HA_4_1_1,HA_4_1_2,HA_4_2_1,HA_4_2_2,HA_4_2_3,HA_4_2_4,HA_4_2_5,HA_4_2_6,HA_4_2_7,HA_4_2_8,HA_4_2_9,HA_4_2_10,HA_4_2_11,HA_4_2_12,HA_4_2_13,HA_4_2_14,HA_4_2_15,HA_4_2_16,HA_4_3_1,HA_4_3_2,HA_4_3_3,HA_4_3_4,HA_4_3_4,HA_4_3_5,HA_4_3_6,HA_4_3_7,HA_4_3_8,HA_4_3_9,HA_4_3_10,HA_4_3_11,HA_4_3_12,HA_4_3_13,HA_4_3_14,HA_4_3_15,HA_4_3_16,HA_4_4_1,HA_4_4_2,HA_4_4_3,HA_4_4_4,HA_4_4_5,HA_4_4_6,HA_4_4_7,HA_4_4_8,HA_4_4_9,HA_4_4_13,HA_4_4_14,HA_4_4_15,HA_5_1_1,HA_5_1_2,HA_5_1_3,HA_5_1_4,HA_5_1_5,HA_5_1_6,HA_5_1_7,HA_6_1_1,HA_6_1_2,HA_6_1_3,HA_6_1_4,HA_6_2_1,HA_6_2_2,HA_6_3_1,HA_6_3_2,HA_6_3_3,HA_6_3_4,HA_6_3_5,HA_6_3_6,HA_6_3_7,HA_6_3_8,HA_6_3_9,HA_6_3_10,HA_8_1_1,HA_8_1_2	IKE

Functional classification and test priority for HA

No.	I-D Section	I-D Section title	Item	Functional Specification	I-D Status	Functional Rank	TEST Priority	Functional Category	Ver2.0		Reason of TEST Priority
									Supported	Test No.	
28				<p>Depending on the final value of the bit in the Binding Acknowledgement, the home agent SHOULD perform the following actions:</p> <p>K = 0 Discard key management connections, if any, to the old care-of address. If the mobile node did not have a binding before sending this Binding Update, discard the connections to the home address.</p> <p>K = 1 Move the peer endpoint of the key management protocol connection, if any, to the new care-of address. For an IKE phase 1 connection, this means that any IKE packets sent to the peer are sent to this address, and packets from this address with the original ISAKMP cookies are accepted.</p>	SHOULD	A	A2	1	X	HA_1_1_5,HA_1_1_6,HA_1_1_7,HA_2_1_1,HA_2_1_2,HA_2_1_3,HA_2_1_4,HA_2_1_5,HA_2_1_6,HA_2_1_7,HA_2_1_8,HA_2_3_1,HA_2_3_2,HA_2_5_1,HA_2_5_2,HA_2_5_3,HA_2_5_4,HA_2_5_5,HA_2_5_6,HA_2_5_7,HA_2_5_8,HA_2_6_1,HA_2_6_2,HA_2_6_3,HA_2_6_4,HA_2_6_5,HA_2_6_6,HA_2_6_7,HA_2_6_8,HA_2_6_9,HA_2_6_10,HA_2_6_11,HA_2_6_12,HA_2_7_1,HA_2_7_2,HA_2_7_3,HA_2_7_4,HA_2_7_5,HA_2_7_6,HA_2_7_7,HA_2_7_8,HA_2_8_1,HA_2_8_2,HA_2_8_3,HA_2_8_4,HA_2_8_5,HA_2_8_6,HA_2_8_7,HA_2_8_8,HA_2_8_9,HA_2_8_10,HA_2_8_11,HA_2_8_12,HA_3_1_1,HA_3_1_2,HA_3_1_3,HA_3_1_4,HA_3_1_5,HA_3_1_6,HA_3_1_7,HA_3_1_8,HA_3_1_9,HA_3_1_10,HA_3_1_11,HA_3_1_12,HA_3_3_1,HA_3_3_2,HA_3_3_3,HA_3_3_4,HA_4_1_1,HA_4_1_2,HA_4_2_1,HA_4_2_2,HA_4_2_3,HA_4_2_4,HA_4_2_5,HA_4_2_6,HA_4_2_7,HA_4_2_8,HA_4_2_9,HA_4_2_10,HA_4_2_11,HA_4_2_12,HA_4_2_13,HA_4_2_14,HA_4_2_15,HA_4_2_16,HA_4_3_1,HA_4_3_2,HA_4_3_3,HA_4_3_4,HA_4_3_4,HA_4_3_5,HA_4_3_6,HA_4_3_7,HA_4_3_8,HA_4_3_9,HA_4_3_10,HA_4_3_11,HA_4_3_12,HA_4_3_13,HA_4_3_14,HA_4_3_15,HA_4_3_16,HA_4_4_1,HA_4_4_2,HA_4_4_3,HA_4_4_4,HA_4_4_5,HA_4_4_6,HA_4_4_7,HA_4_4_8,HA_4_4_9,HA_4_4_13,HA_4_4_14,HA_4_4_15,HA_5_1_1,HA_5_1_2,HA_5_1_3,HA_5_1_4,HA_5_1_5,HA_5_1_6,HA_5_1_7,HA_6_1_1,HA_6_1_2,HA_6_1_3,HA_6_1_4,HA_6_2_1,HA_6_2_2,HA_6_3_1,HA_6_3_2,HA_6_3_3,HA_6_3_4,HA_6_3_5,HA_6_3_6,HA_6_3_7,HA_6_3_8,HA_6_3_9,HA_6_3_10,HA_8_1_1,HA_8_1_2	IKE

Functional classification and test priority for HA

No.	I-D Section	I-D Section title	Item	Functional Specification	I-D Status	Functional Rank	TEST Priority	Functional Category	Ver2.0		Reason of TEST Priority
									Supported	Test No.	
29				oThe Sequence Number field MUST be copied from the Sequence Number given in the Binding Update.	MUST	A	A1	1	X	HA_1_1.5.HA_1_1_6.HA_1_1_7. HA_2_1_1.HA_2_1_2.HA_2_1_3. HA_2_1_4.HA_2_1_5.HA_2_1_6. HA_2_1_7.HA_2_1_8.HA_2_3_1. HA_2_3_2.HA_2_5_1.HA_2_5_2. HA_2_5_3.HA_2_5_4.HA_2_5_5. HA_2_5_6.HA_2_5_7.HA_2_5_8. HA_2_6_1.HA_2_6_2.HA_2_6_3. HA_2_6_4.HA_2_6_5.HA_2_6_6. HA_2_6_7.HA_2_6_8.HA_2_6_9. HA_2_6_10.HA_2_6_11.HA_2_6_12. HA_2_7_1.HA_2_7_2.HA_2_7_3. HA_2_7_4.HA_2_7_5.HA_2_7_6. HA_2_7_7.HA_2_7_8.HA_2_8_1. HA_2_8_2.HA_2_8_3.HA_2_8_4. HA_2_8_5.HA_2_8_6.HA_2_8_7. HA_2_8_8.HA_2_8_9.HA_2_8_10. HA_2_8_11.HA_2_8_12.HA_3_1_1. HA_3_1_2.HA_3_1_3.HA_3_1_4. HA_3_1_5.HA_3_1_6.HA_3_1_7. HA_3_1_8.HA_3_1_9.HA_3_1_10. HA_3_1_11.HA_3_1_12.HA_3_3_1. HA_3_3_2.HA_3_3_3.HA_3_3_4. HA_4_1_1.HA_4_1_2.HA_4_2_1. HA_4_2_2.HA_4_2_3.HA_4_2_4. HA_4_2_5.HA_4_2_6.HA_4_2_7. HA_4_2_8.HA_4_2_9.HA_4_2_10. HA_4_2_11.HA_4_2_12.HA_4_2_13. HA_4_2_14.HA_4_2_15.HA_4_2_16. HA_4_3_1.HA_4_3_2.HA_4_3_3. HA_4_3_4.HA_4_3_5.HA_4_3_6. HA_4_3_7.HA_4_3_8.HA_4_3_9. HA_4_3_10.HA_4_3_11.HA_4_3_12. HA_4_3_13.HA_4_3_14.HA_4_3_15. HA_4_3_16.HA_4_4_1.HA_4_4_2. HA_4_4_3.HA_4_4_4.HA_4_4_5. HA_4_4_6.HA_4_4_7.HA_4_4_8. HA_4_4_9.HA_4_4_13.HA_4_4_14. HA_4_4_15.HA_5_1_1.HA_5_1_2. HA_5_1_3.HA_5_1_4.HA_5_1_5. HA_5_1_6.HA_5_1_7.HA_6_1_1. HA_6_1_2.HA_6_1_3.HA_6_1_4. HA_6_2_1.HA_6_2_2.HA_6_3_1. HA_6_3_2.HA_6_3_3.HA_6_3_4. HA_6_3_5.HA_6_3_6.HA_6_3_7. HA_6_3_8.HA_6_3_9.HA_6_3_10. HA_8_1_1.HA_8_1_2	

Functional classification and test priority for HA

No.	I-D Section	I-D Section title	Item	Functional Specification	I-D Status	Functional Rank	TEST Priority	Functional Category	Ver2.0		Reason of TEST Priority
									Supported	Test No.	
30				o The Lifetime field MUST be set to the remaining lifetime for the binding as set by the home agent in its home registration Binding Cache entry for the mobile node, as described above.	MUST	A	A1	1	X	HA_1_1,5.HA_1_1_6.HA_1_1_7. HA_2_1_1.HA_2_1_2.HA_2_1_3. HA_2_1_4.HA_2_1_5.HA_2_1_6. HA_2_1_7.HA_2_1_8.HA_2_3_1. HA_2_3_2.HA_2_5_1.HA_2_5_2. HA_2_5_3.HA_2_5_4.HA_2_5_5. HA_2_5_6.HA_2_5_7.HA_2_5_8. HA_2_6_1.HA_2_6_2.HA_2_6_3. HA_2_6_4.HA_2_6_5.HA_2_6_6. HA_2_6_7.HA_2_6_8.HA_2_6_9. HA_2_6_10.HA_2_6_11.HA_2_6_12. HA_2_7_1.HA_2_7_2.HA_2_7_3. HA_2_7_4.HA_2_7_5.HA_2_7_6. HA_2_7_7.HA_2_7_8.HA_2_8_1. HA_2_8_2.HA_2_8_3.HA_2_8_4. HA_2_8_5.HA_2_8_6.HA_2_8_7. HA_2_8_8.HA_2_8_9.HA_2_8_10. HA_2_8_11.HA_2_8_12.HA_3_1_1. HA_3_1_2.HA_3_1_3.HA_3_1_4. HA_3_1_5.HA_3_1_6.HA_3_1_7. HA_3_1_8.HA_3_1_9.HA_3_1_10. HA_3_1_11.HA_3_1_12.HA_3_3_1. HA_3_3_2.HA_3_3_3.HA_3_3_4. HA_4_1_1.HA_4_1_2.HA_4_2_1. HA_4_2_2.HA_4_2_3.HA_4_2_4. HA_4_2_5.HA_4_2_6.HA_4_2_7. HA_4_2_8.HA_4_2_9.HA_4_2_10. HA_4_2_11.HA_4_2_12.HA_4_2_13. HA_4_2_14.HA_4_2_15.HA_4_2_16. HA_4_3_1.HA_4_3_2.HA_4_3_3. HA_4_3_4.HA_4_3_5.HA_4_3_6. HA_4_3_7.HA_4_3_8.HA_4_3_9. HA_4_3_10.HA_4_3_11.HA_4_3_12. HA_4_3_13.HA_4_3_14.HA_4_3_15. HA_4_3_16.HA_4_4_1.HA_4_4_2. HA_4_4_3.HA_4_4_4.HA_4_4_5. HA_4_4_6.HA_4_4_7.HA_4_4_8. HA_4_4_9.HA_4_4_13.HA_4_4_14. HA_4_4_15.HA_5_1_1.HA_5_1_2. HA_5_1_3.HA_5_1_4.HA_5_1_5. HA_5_1_6.HA_5_1_7.HA_6_1_1. HA_6_1_2.HA_6_1_3.HA_6_1_4. HA_6_2_1.HA_6_2_2.HA_6_3_1. HA_6_3_2.HA_6_3_3.HA_6_3_4. HA_6_3_5.HA_6_3_6.HA_6_3_7. HA_6_3_8.HA_6_3_9.HA_6_3_10. HA_8_1_1.HA_8_1_2	

Functional classification and test priority for HA

No.	I-D Section	I-D Section title	Item	Functional Specification	I-D Status	Functional Rank	TEST Priority	Functional Category	Ver2.0		Reason of TEST Priority
									Supported	Test No.	
31				<p>o If the home agent stores the Binding Cache entry in nonvolatile storage, then the Binding Refresh Advice mobility option MUST be omitted. Otherwise, the home agent MAY include this option to suggest that the mobile node refreshes its binding sooner than the actual lifetime of the binding ends.</p> <p>If the Binding Refresh Advice mobility option is present, the Refresh Interval field in the option MUST be set to a value less than the Lifetime value being returned in the Binding Acknowledgement. This indicates that the mobile node SHOULD attempt to refresh its home registration at the indicated shorter interval.</p>	MUST	A	A2	1	X	HA_1_1_5,HA_1_1_6,HA_1_1_7,HA_2_1_1,HA_2_1_2,HA_2_1_3,HA_2_1_4,HA_2_1_5,HA_2_1_6,HA_2_1_7,HA_2_1_8,HA_2_3_1,HA_2_3_2,HA_2_5_1,HA_2_5_2,HA_2_5_3,HA_2_5_4,HA_2_5_5,HA_2_5_6,HA_2_5_7,HA_2_5_8,HA_2_6_1,HA_2_6_2,HA_2_6_3,HA_2_6_4,HA_2_6_5,HA_2_6_6,HA_2_6_7,HA_2_6_8,HA_2_6_9,HA_2_6_10,HA_2_6_11,HA_2_6_12,HA_2_7_1,HA_2_7_2,HA_2_7_3,HA_2_7_4,HA_2_7_5,HA_2_7_6,HA_2_7_7,HA_2_7_8,HA_2_8_1,HA_2_8_2,HA_2_8_3,HA_2_8_4,HA_2_8_5,HA_2_8_6,HA_2_8_7,HA_2_8_8,HA_2_8_9,HA_2_8_10,HA_2_8_11,HA_2_8_12,HA_3_1_1,HA_3_1_2,HA_3_1_3,HA_3_1_4,HA_3_1_5,HA_3_1_6,HA_3_1_7,HA_3_1_8,HA_3_1_9,HA_3_1_10,HA_3_1_11,HA_3_1_12,HA_3_3_1,HA_3_3_2,HA_3_3_3,HA_3_3_4,HA_4_1_1,HA_4_1_2,HA_4_2_1,HA_4_2_2,HA_4_2_3,HA_4_2_4,HA_4_2_5,HA_4_2_6,HA_4_2_7,HA_4_2_8,HA_4_2_9,HA_4_2_10,HA_4_2_11,HA_4_2_12,HA_4_2_13,HA_4_2_14,HA_4_2_15,HA_4_2_16,HA_4_3_1,HA_4_3_2,HA_4_3_3,HA_4_3_4,HA_4_3_4,HA_4_3_5,HA_4_3_6,HA_4_3_7,HA_4_3_8,HA_4_3_9,HA_4_3_10,HA_4_3_11,HA_4_3_12,HA_4_3_13,HA_4_3_14,HA_4_3_15,HA_4_3_16,HA_4_4_1,HA_4_4_2,HA_4_4_3,HA_4_4_4,HA_4_4_5,HA_4_4_6,HA_4_4_7,HA_4_4_8,HA_4_4_9,HA_4_4_13,HA_4_4_14,HA_4_4_15,HA_5_1_1,HA_5_1_2,HA_5_1_3,HA_5_1_4,HA_5_1_5,HA_5_1_6,HA_5_1_7,HA_6_1_1,HA_6_1_2,HA_6_1_3,HA_6_1_4,HA_6_2_1,HA_6_2_2,HA_6_3_1,HA_6_3_2,HA_6_3_3,HA_6_3_4,HA_6_3_5,HA_6_3_6,HA_6_3_7,HA_6_3_8,HA_6_3_9,HA_6_3_10,HA_8_1_1,HA_8_1_2	This function is implementaion-dependent. It does not effect on interoperability

Functional classification and test priority for HA

No.	I-D Section	I-D Section title	Item	Functional Specification	I-D Status	Functional Rank	TEST Priority	Functional Category	Ver2.0		Reason of TEST Priority
									Supported	Test No.	
32					MAY	B	B	2	X	HA_1_1_5,HA_1_1_6,HA_1_1_7, HA_2_1_1,HA_2_1_2,HA_2_1_3, HA_2_1_4,HA_2_1_5,HA_2_1_6, HA_2_1_7,HA_2_1_8,HA_2_3_1, HA_2_3_2,HA_2_5_1,HA_2_5_2, HA_2_5_3,HA_2_5_4,HA_2_5_5, HA_2_5_6,HA_2_5_7,HA_2_5_8, HA_2_6_1,HA_2_6_2,HA_2_6_3, HA_2_6_4,HA_2_6_5,HA_2_6_6, HA_2_6_7,HA_2_6_8,HA_2_6_9, HA_2_6_10,HA_2_6_11,HA_2_6_12, HA_2_7_1,HA_2_7_2,HA_2_7_3, HA_2_7_4,HA_2_7_5,HA_2_7_6, HA_2_7_7,HA_2_7_8,HA_2_8_1, HA_2_8_2,HA_2_8_3,HA_2_8_4, HA_2_8_5,HA_2_8_6,HA_2_8_7, HA_2_8_8,HA_2_8_9,HA_2_8_10, HA_2_8_11,HA_2_8_12,HA_3_1_1, HA_3_1_2,HA_3_1_3,HA_3_1_4, HA_3_1_5,HA_3_1_6,HA_3_1_7, HA_3_1_8,HA_3_1_9,HA_3_1_10, HA_3_1_11,HA_3_1_12,HA_3_3_1, HA_3_3_2,HA_3_3_3,HA_3_3_4, HA_4_1_1,HA_4_1_2,HA_4_2_1, HA_4_2_2,HA_4_2_3,HA_4_2_4, HA_4_2_5,HA_4_2_6,HA_4_2_7, HA_4_2_8,HA_4_2_9,HA_4_2_10, HA_4_2_11,HA_4_2_12,HA_4_2_13, HA_4_2_14,HA_4_2_15,HA_4_2_16, HA_4_3_1,HA_4_3_2,HA_4_3_3, HA_4_3_4,HA_4_3_5,HA_4_3_6, HA_4_3_7,HA_4_3_8,HA_4_3_9, HA_4_3_10,HA_4_3_11,HA_4_3_12, HA_4_3_13,HA_4_3_14,HA_4_3_15, HA_4_3_16,HA_4_4_1,HA_4_4_2, HA_4_4_3,HA_4_4_4,HA_4_4_5, HA_4_4_6,HA_4_4_7,HA_4_4_8, HA_4_4_9,HA_4_4_13,HA_4_4_14, HA_4_4_15,HA_5_1_1,HA_5_1_2, HA_5_1_3,HA_5_1_4,HA_5_1_5, HA_5_1_6,HA_5_1_7,HA_6_1_1, HA_6_1_2,HA_6_1_3,HA_6_1_4, HA_6_2_1,HA_6_2_2,HA_6_3_1, HA_6_3_2,HA_6_3_3,HA_6_3_4, HA_6_3_5,HA_6_3_6,HA_6_3_7, HA_6_3_8,HA_6_3_9,HA_6_3_10, HA_8_1_1,HA_8_1_2	This function is implementaion-dependent. It does not effect on interoperability

Functional classification and test priority for HA

No.	I-D Section	I-D Section title	Item	Functional Specification	I-D Status	Functional Rank	TEST Priority	Functional Category	Ver2.0		Reason of TEST Priority
									Supported	Test No.	
33					MUST	A	A2	1	X	HA_1_1.5.HA_1_1.6.HA_1_1.7. HA_2_1_1.HA_2_1_2.HA_2_1_3. HA_2_1_4.HA_2_1_5.HA_2_1_6. HA_2_1_7.HA_2_1_8.HA_2_3_1. HA_2_3_2.HA_2_5_1.HA_2_5_2. HA_2_5_3.HA_2_5_4.HA_2_5_5. HA_2_5_6.HA_2_5_7.HA_2_5_8. HA_2_6_1.HA_2_6_2.HA_2_6_3. HA_2_6_4.HA_2_6_5.HA_2_6_6. HA_2_6_7.HA_2_6_8.HA_2_6_9. HA_2_6_10.HA_2_6_11.HA_2_6_12. HA_2_7_1.HA_2_7_2.HA_2_7_3. HA_2_7_4.HA_2_7_5.HA_2_7_6. HA_2_7_7.HA_2_7_8.HA_2_8_1. HA_2_8_2.HA_2_8_3.HA_2_8_4. HA_2_8_5.HA_2_8_6.HA_2_8_7. HA_2_8_8.HA_2_8_9.HA_2_8_10. HA_2_8_11.HA_2_8_12.HA_3_1_1. HA_3_1_2.HA_3_1_3.HA_3_1_4. HA_3_1_5.HA_3_1_6.HA_3_1_7. HA_3_1_8.HA_3_1_9.HA_3_1_10. HA_3_1_11.HA_3_1_12.HA_3_3_1. HA_3_3_2.HA_3_3_3.HA_3_3_4. HA_4_1_1.HA_4_1_2.HA_4_2_1. HA_4_2_2.HA_4_2_3.HA_4_2_4. HA_4_2_5.HA_4_2_6.HA_4_2_7. HA_4_2_8.HA_4_2_9.HA_4_2_10. HA_4_2_11.HA_4_2_12.HA_4_2_13. HA_4_2_14.HA_4_2_15.HA_4_2_16. HA_4_3_1.HA_4_3_2.HA_4_3_3. HA_4_3_4.HA_4_3_5.HA_4_3_6. HA_4_3_7.HA_4_3_8.HA_4_3_9. HA_4_3_10.HA_4_3_11.HA_4_3_12. HA_4_3_13.HA_4_3_14.HA_4_3_15. HA_4_3_16.HA_4_4_1.HA_4_4_2. HA_4_4_3.HA_4_4_4.HA_4_4_5. HA_4_4_6.HA_4_4_7.HA_4_4_8. HA_4_4_9.HA_4_4_13.HA_4_4_14. HA_4_4_15.HA_5_1_1.HA_5_1_2. HA_5_1_3.HA_5_1_4.HA_5_1_5. HA_5_1_6.HA_5_1_7.HA_6_1_1. HA_6_1_2.HA_6_1_3.HA_6_1_4. HA_6_2_1.HA_6_2_2.HA_6_3_1. HA_6_3_2.HA_6_3_3.HA_6_3_4. HA_6_3_5.HA_6_3_6.HA_6_3_7. HA_6_3_8.HA_6_3_9.HA_6_3_10. HA_8_1_1.HA_8_1_2	This function is implementaion-dependent. It does not effect on interoperability

Functional classification and test priority for HA

No.	I-D Section	I-D Section title	Item	Functional Specification	I-D Status	Functional Rank	TEST Priority	Functional Category	Ver2.0		Reason of TEST Priority
									Supported	Test No.	
34					SHOULD	A	A2	1	X	HA_1_1_5,HA_1_1_6,HA_1_1_7, HA_2_1_1,HA_2_1_2,HA_2_1_3, HA_2_1_4,HA_2_1_5,HA_2_1_6, HA_2_1_7,HA_2_1_8,HA_2_3_1, HA_2_3_2,HA_2_5_1,HA_2_5_2, HA_2_5_3,HA_2_5_4,HA_2_5_5, HA_2_5_6,HA_2_5_7,HA_2_5_8, HA_2_6_1,HA_2_6_2,HA_2_6_3, HA_2_6_4,HA_2_6_5,HA_2_6_6, HA_2_6_7,HA_2_6_8,HA_2_6_9, HA_2_6_10,HA_2_6_11,HA_2_6_12, HA_2_7_1,HA_2_7_2,HA_2_7_3, HA_2_7_4,HA_2_7_5,HA_2_7_6, HA_2_7_7,HA_2_7_8,HA_2_8_1, HA_2_8_2,HA_2_8_3,HA_2_8_4, HA_2_8_5,HA_2_8_6,HA_2_8_7, HA_2_8_8,HA_2_8_9,HA_2_8_10, HA_2_8_11,HA_2_8_12,HA_3_1_1, HA_3_1_2,HA_3_1_3,HA_3_1_4, HA_3_1_5,HA_3_1_6,HA_3_1_7, HA_3_1_8,HA_3_1_9,HA_3_1_10, HA_3_1_11,HA_3_1_12,HA_3_3_1, HA_3_3_2,HA_3_3_3,HA_3_3_4, HA_4_1_1,HA_4_1_2,HA_4_2_1, HA_4_2_2,HA_4_2_3,HA_4_2_4, HA_4_2_5,HA_4_2_6,HA_4_2_7, HA_4_2_8,HA_4_2_9,HA_4_2_10, HA_4_2_11,HA_4_2_12,HA_4_2_13, HA_4_2_14,HA_4_2_15,HA_4_2_16, HA_4_3_1,HA_4_3_2,HA_4_3_3, HA_4_3_4,HA_4_3_5,HA_4_3_6, HA_4_3_7,HA_4_3_8,HA_4_3_9, HA_4_3_10,HA_4_3_11,HA_4_3_12, HA_4_3_13,HA_4_3_14,HA_4_3_15, HA_4_3_16,HA_4_4_1,HA_4_4_2, HA_4_4_3,HA_4_4_4,HA_4_4_5, HA_4_4_6,HA_4_4_7,HA_4_4_8, HA_4_4_9,HA_4_4_13,HA_4_4_14, HA_4_4_15,HA_5_1_1,HA_5_1_2, HA_5_1_3,HA_5_1_4,HA_5_1_5, HA_5_1_6,HA_5_1_7,HA_6_1_1, HA_6_1_2,HA_6_1_3,HA_6_1_4, HA_6_2_1,HA_6_2_2,HA_6_3_1, HA_6_3_2,HA_6_3_3,HA_6_3_4, HA_6_3_5,HA_6_3_6,HA_6_3_7, HA_6_3_8,HA_6_3_9,HA_6_3_10, HA_8_1_1,HA_8_1_2	This function is implementaion-dependent. It does not effect on interoperability
35				The home agent MUST still retain the registration for the Lifetime period, even if the mobile node does not refresh its registration within the Refresh period.	MUST	A	A2	1	X	HA_2_1_4 HA_2_1_8	Binding Refresh Advice mobility option

Functional classification and test priority for HA

No.	I-D Section	I-D Section title	Item	Functional Specification	I-D Status	Functional Rank	TEST Priority	Functional Category	Ver2.0		Reason of TEST Priority
									Supported	Test No.	
36				<p>The rules for selecting the Destination IP address (and possibly routing header construction) for the Binding Acknowledgement to the mobile node are the same as in Section 9.5.4.</p> <p>Section 9.5.4 If the Source Address field of the IPv6 header that carried the Binding Update does not contain a unicast address, the Binding Acknowledgement MUST NOT be sent, and the Binding Update packet MUST be silently discarded. Otherwise, the acknowledgement MUST be sent to the Source Address. Unlike the treatment of regular packets, this addressing procedure does not use information from the Binding Cache. However, a routing header is needed in some cases. If the Source Address is the home address of the mobile node, i.e., the Binding Update did not contain a Home Address destination option, then the Binding Acknowledgement MUST be sent to that address, and the routing header MUST NOT be used. Otherwise, the Binding Acknowledgement MUST be sent using a type 2 routing header which contains the mobile node's home address.</p>	(do)	A	A1	1	X	HA_1_1_5,HA_1_1_6,HA_1_1_7, HA_2_1_1,HA_2_1_2,HA_2_1_3, HA_2_1_4,HA_2_1_5,HA_2_1_6, HA_2_1_7,HA_2_1_8,HA_2_3_1, HA_2_3_2,HA_2_5_1,HA_2_5_2, HA_2_5_3,HA_2_5_4,HA_2_5_5, HA_2_5_6,HA_2_5_7,HA_2_5_8, HA_2_6_1,HA_2_6_2,HA_2_6_3, HA_2_6_4,HA_2_6_5,HA_2_6_6, HA_2_6_7,HA_2_6_8,HA_2_6_9, HA_2_6_10,HA_2_6_11,HA_2_6_12, HA_2_7_1,HA_2_7_2,HA_2_7_3, HA_2_7_4,HA_2_7_5,HA_2_7_6, HA_2_7_7,HA_2_7_8,HA_2_8_1, HA_2_8_2,HA_2_8_3,HA_2_8_4, HA_2_8_5,HA_2_8_6,HA_2_8_7, HA_2_8_8,HA_2_8_9,HA_2_8_10, HA_2_8_11,HA_2_8_12,HA_3_1_1, HA_3_1_2,HA_3_1_3,HA_3_1_4, HA_3_1_5,HA_3_1_6,HA_3_1_7, HA_3_1_8,HA_3_1_9,HA_3_1_10, HA_3_1_11,HA_3_1_12,HA_3_3_1, HA_3_3_2,HA_3_3_3,HA_3_3_4, HA_4_1_1,HA_4_1_2,HA_4_2_1, HA_4_2_2,HA_4_2_3,HA_4_2_4, HA_4_2_5,HA_4_2_6,HA_4_2_7, HA_4_2_8,HA_4_2_9,HA_4_2_10, HA_4_2_11,HA_4_2_12,HA_4_2_13, HA_4_2_14,HA_4_2_15,HA_4_2_16, HA_4_3_1,HA_4_3_2,HA_4_3_3, HA_4_3_4,HA_4_3_5,HA_4_3_6, HA_4_3_7,HA_4_3_8,HA_4_3_9, HA_4_3_10,HA_4_3_11,HA_4_3_12, HA_4_3_13,HA_4_3_14,HA_4_3_15, HA_4_3_16,HA_4_4_1,HA_4_4_2, HA_4_4_3,HA_4_4_4,HA_4_4_5, HA_4_4_6,HA_4_4_7,HA_4_4_8, HA_4_4_9,HA_4_4_13,HA_4_4_14, HA_4_4_15,HA_5_1_1,HA_5_1_2, HA_5_1_3,HA_5_1_4,HA_5_1_5, HA_5_1_6,HA_5_1_7,HA_6_1_1, HA_6_1_2,HA_6_1_3,HA_6_1_4, HA_6_2_1,HA_6_2_2,HA_6_3_1, HA_6_3_2,HA_6_3_3,HA_6_3_4, HA_6_3_5,HA_6_3_6,HA_6_3_7, HA_6_3_8,HA_6_3_9,HA_6_3_10, HA_8_1_1,HA_8_1_2	

Functional classification and test priority for HA

No.	I-D Section	I-D Section title	Item	Functional Specification	I-D Status	Functional Rank	TEST Priority	Functional Category	Ver2.0		Reason of TEST Priority
									Supported	Test No.	
37				<p>In addition, the home agent MUST follow the procedure defined in Section 10.4.1 to intercept packets on the mobile node's home link addressed to the mobile node, while the home agent is serving as the home agent for this mobile node.</p> <p>Section 10.4.1 While a node is serving as the home agent for mobile node it MUST attempt to intercept packets on the mobile node's home link that are addressed to the mobile node.</p> <p>In order to do this, when a node begins serving as the home agent it MUST multicast onto the home link a Neighbor Advertisement message[12] on behalf of the mobile node. For the home address specified in the Binding Update, the home agent sends a Neighbor Advertisement message [12] to the all-nodes multicast address on the home link, to advertise the home agent's own link-layer address for this IP address on behalf of the mobile node.</p> <p>If the Link-Layer Address Compatibility (L) flag has been specified in the Binding Update, the home agent MUST do the same for the link-local address of the mobile node.</p>	MUST	A	A1	1	X	HA_4_1_1 HA_4_1_2 HA_4_2_1 HA_4_2_2 HA_4_2_3 HA_4_2_4 HA_4_2_5 HA_4_2_6 HA_4_2_7 HA_4_2_8 HA_4_2_9 HA_4_2_13 HA_4_2_14 HA_4_2_15 HA_4_4_1 HA_4_4_2 HA_4_4_3 HA_4_4_4 HA_4_4_5 HA_4_4_6 HA_4_4_7 HA_4_4_8 HA_4_4_9 HA_4_4_13 HA_4_4_14 HA_4_4_15 HA_5_1_1 HA_5_1_3 HA_5_1_4 HA_5_1_5 HA_5_1_6 HA_5_1_7 HA_6_3_3 HA_6_3_4 HA_6_3_7 HA_6_3_8	

Functional classification and test priority for HA

No.	I-D Section	I-D Section title	Item	Functional Specification	I-D Status	Functional Rank	TEST Priority	Functional Category	Ver2.0		Reason of TEST Priority
									Supported	Test No.	
38				<p>The home agent MUST also be prepared to accept reverse tunneled packets from the new care-of address of the mobile node, as described in Section 10.4.5.</p> <p>Section 10.4.5 The tunneled traffic arrives to the home agent's address using IPv6 encapsulation [15]. When a home agent decapsulates a tunneled packet from the mobile node, the home agent MUST verify that the Source Address in the tunnel IP header is the mobile node's primary care-of address. Otherwise any node in the Internet could send traffic through the home agent and escape ingress filtering limitations.</p>	MUST	A	A1	1	X	HA_6_1_1 HA_6_1_2 HA_6_1_3 HA_6_1_4 HA_6_3_1 HA_6_3_2 HA_6_3_3 HA_6_3_4 HA_6_3_5 HA_6_3_6 HA_6_3_7 HA_6_3_8	

Functional classification and test priority for HA

No.	I-D Section	I-D Section title	Item	Functional Specification	I-D Status	Functional Rank	TEST Priority	Functional Category	Ver2.0		Reason of TEST Priority
									Supported	Test No.	
39				<p>Finally, the home agent MUST also propagate new home network prefixes, as described in Section 10.6.</p> <p>Section 10.6.2 The valid or preferred lifetime or the state of the flags changes for the prefix of the mobile node's registered home address. The mobile node requests the information with a Mobile Prefix Solicitation (see Section 11.4.2). A new prefix is added to the aggregate list.</p>	MUST	A	A2	1	X	HA_8_1_1 HA_8_1_2	Mobile Prefix Advertisement
40	10.3.2	Primary Care-of Address De-Registration	To begin processing the Binding Update, the home agent MUST perform the following test:	o If the receiving node has no entry marked as a home registration in its Binding Cache for this mobile node, then this node MUST reject the Binding Update and SHOULD return a Binding Acknowledgement to the mobile node, in which the Status field is set to 133 (not home agent for this mobile node).	MUST	A	A1	2	X	HA_3_2_1 HA_3_2_2 HA_3_2_3 HA_3_2_4 HA_3_2_5 HA_3_2_6 HA_3_2_7 HA_3_2_8 HA_3_2_9 HA_3_2_10 HA_3_2_11 HA_3_2_12	

Functional classification and test priority for HA

No.	I-D Section	I-D Section title	Item	Functional Specification	I-D Status	Functional Rank	TEST Priority	Functional Category	Ver2.0		Reason of TEST Priority
									Supported	Test No.	
41					SHOULD	A	A1	2	X	HA_3_2_1 HA_3_2_2 HA_3_2_3 HA_3_2_4 HA_3_2_5 HA_3_2_6 HA_3_2_7 HA_3_2_8 HA_3_2_9 HA_3_2_10 HA_3_2_11 HA_3_2_12	

Functional classification and test priority for HA

No.	I-D Section	I-D Section title	Item	Functional Specification	I-D Status	Functional Rank	TEST Priority	Functional Category	Ver2.0		Reason of TEST Priority
									Supported	Test No.	
42				If the home agent does not reject the Binding Update as described above, then it MUST delete any existing entry in its Binding Cache for this mobile node.	MUST	A	A1	1	X	HA_3_1_1 HA_3_1_2 HA_3_1_3 HA_3_1_4 HA_3_1_5 HA_3_1_6 HA_3_1_7 HA_3_1_8 HA_3_1_9 HA_3_1_10 HA_3_1_11 HA_3_1_12 HA_4_4_1 HA_4_4_2 HA_4_4_3 HA_4_4_4 HA_4_4_5 HA_4_4_6 HA_4_4_7 HA_4_4_8 HA_4_4_9 HA_4_4_13 HA_4_4_14 HA_4_4_15	

Functional classification and test priority for HA

No.	I-D Section	I-D Section title	Item	Functional Specification	I-D Status	Functional Rank	TEST Priority	Functional Category	Ver2.0		Reason of TEST Priority
									Supported	Test No.	
43			Then, the home agent MUST return a Binding Acknowledgement to the mobile node, constructed as follows:	o <u>The Status field MUST be set to a value 0, indicating success.</u>	MUST	A	A1	1	X	HA_3_1_1 HA_3_1_2 HA_3_1_3 HA_3_1_4 HA_3_1_5 HA_3_1_6 HA_3_1_7 HA_3_1_8 HA_3_1_9 HA_3_1_10 HA_3_1_11 HA_3_1_12 HA_4_4_1 HA_4_4_2 HA_4_4_3 HA_4_4_4 HA_4_4_5 HA_4_4_6 HA_4_4_7 HA_4_4_8 HA_4_4_9 HA_4_4_13 HA_4_4_14 HA_4_4_15	

Functional classification and test priority for HA

No.	I-D Section	I-D Section title	Item	Functional Specification	I-D Status	Functional Rank	TEST Priority	Functional Category	Ver2.0		Reason of TEST Priority
									Supported	Test No.	
44				o <u>The Key Management Mobility Capability (K) bit is set or cleared, and actions based on its value are performed as described in the previous section. The mobile node's home address is used as its new care-of address for the purposes of moving the key management connection to a new endpoint.</u>	(do)	A	A2	1	X	HA_3_1_1 HA_3_1_2 HA_3_1_3 HA_3_1_4 HA_3_1_5 HA_3_1_6 HA_3_1_7 HA_3_1_8 HA_3_1_9 HA_3_1_10 HA_3_1_11 HA_3_1_12 HA_4_4_1 HA_4_4_2 HA_4_4_3 HA_4_4_4 HA_4_4_5 HA_4_4_6 HA_4_4_7 HA_4_4_8 HA_4_4_9 HA_4_4_13 HA_4_4_14 HA_4_4_15	IKE

Functional classification and test priority for HA

No.	I-D Section	I-D Section title	Item	Functional Specification	I-D Status	Functional Rank	TEST Priority	Functional Category	Ver2.0		Reason of TEST Priority
									Supported	Test No.	
45				o The Sequence Number field MUST be copied from the Sequence Number given in the Binding Update.	MUST	A	A1	1	X	HA_3_1_1 HA_3_1_2 HA_3_1_3 HA_3_1_4 HA_3_1_5 HA_3_1_6 HA_3_1_7 HA_3_1_8 HA_3_1_9 HA_3_1_10 HA_3_1_11 HA_3_1_12 HA_4_4_1 HA_4_4_2 HA_4_4_3 HA_4_4_4 HA_4_4_5 HA_4_4_6 HA_4_4_7 HA_4_4_8 HA_4_4_9 HA_4_4_13 HA_4_4_14 HA_4_4_15	

Functional classification and test priority for HA

No.	I-D Section	I-D Section title	Item	Functional Specification	I-D Status	Functional Rank	TEST Priority	Functional Category	Ver2.0		Reason of TEST Priority
									Supported	Test No.	
46				o The Lifetime field MUST be set to zero.	MUST	A	A1	1	X	HA_3_1_1 HA_3_1_2 HA_3_1_3 HA_3_1_4 HA_3_1_5 HA_3_1_6 HA_3_1_7 HA_3_1_8 HA_3_1_9 HA_3_1_10 HA_3_1_11 HA_3_1_12 HA_4_4_1 HA_4_4_2 HA_4_4_3 HA_4_4_4 HA_4_4_5 HA_4_4_6 HA_4_4_7 HA_4_4_8 HA_4_4_9 HA_4_4_13 HA_4_4_14 HA_4_4_15	

Functional classification and test priority for HA

No.	I-D Section	I-D Section title	Item	Functional Specification	I-D Status	Functional Rank	TEST Priority	Functional Category	Ver2.0		Reason of TEST Priority
									Supported	Test No.	
47				o The Binding Refresh Advice mobility option MUST be omitted.	MUST	A	A1	1	X	HA_3_1_1 HA_3_1_2 HA_3_1_3 HA_3_1_4 HA_3_1_5 HA_3_1_6 HA_3_1_7 HA_3_1_8 HA_3_1_9 HA_3_1_10 HA_3_1_11 HA_3_1_12 HA_4_4_1 HA_4_4_2 HA_4_4_3 HA_4_4_4 HA_4_4_5 HA_4_4_6 HA_4_4_7 HA_4_4_8 HA_4_4_9 HA_4_4_13 HA_4_4_14 HA_4_4_15	
48				In addition, the home agent MUST stop intercepting packets on the mobile node's home link that are addressed to the mobile node (Section 10.4.1).	MUST	A	A1	1	X	HA_4_4_1 HA_4_4_2 HA_4_4_3 HA_4_4_4 HA_4_4_5 HA_4_4_6 HA_4_4_7 HA_4_4_8 HA_4_4_9 HA_4_4_13 HA_4_4_14 HA_4_4_15	

Functional classification and test priority for HA

No.	I-D Section	I-D Section title	Item	Functional Specification	I-D Status	Functional Rank	TEST Priority	Functional Category	Ver2.0		Reason of TEST Priority
									Supported	Test No.	
49				<p><u>The rules for selecting the Destination IP address (and, if required, routing header construction) for the Binding Acknowledgement to the mobile node are the same as in the previous section.</u></p>	(do)	A	A1	1	X	HA_3_1_1 HA_3_1_2 HA_3_1_3 HA_3_1_4 HA_3_1_5 HA_3_1_6 HA_3_1_7 HA_3_1_8 HA_3_1_9 HA_3_1_10 HA_3_1_11 HA_3_1_12 HA_4_4_1 HA_4_4_2 HA_4_4_3 HA_4_4_4 HA_4_4_5 HA_4_4_6 HA_4_4_7 HA_4_4_8 HA_4_4_9 HA_4_4_13 HA_4_4_14 HA_4_4_15	
				<p>When the Status field in the Binding Acknowledgement is greater than or equal to 128 and the Source Address of the Binding Update is on the home link, the home agent MUST send it to the mobile node's link layer address (retrieved either from the Binding Update or through Neighbor Solicitation).</p>						MUST	

Functional classification and test priority for HA

No.	I-D Section	I-D Section title	Item	Functional Specification	I-D Status	Functional Rank	TEST Priority	Functional Category	Ver2.0		Reason of TEST Priority
									Support ed	Test No.	
1	10.4.1.	Intercepting Packets for a Mobile Node	intercepting packets on the mobile node's home link	While a node is serving as the home agent for mobile node it MUST attempt to intercept packets on the mobile node's home link that are addressed to the mobile node.	MUST	A	A1	1	X	HA_4_1_1 HA_4_1_2 HA_4_2_1 HA_4_2_2 HA_4_2_3 HA_4_2_4 HA_4_2_5 HA_4_2_6 HA_4_2_7 HA_4_2_8 HA_4_2_9 HA_4_2_13 HA_4_2_14 HA_4_2_15 HA_4_4_1 HA_4_4_2 HA_4_4_3 HA_4_4_4 HA_4_4_5 HA_4_4_6 HA_4_4_7 HA_4_4_8 HA_4_4_9 HA_4_4_13 HA_4_4_14 HA_4_4_15	

Functional classification and test priority for HA

No.	I-D Section	I-D Section title	Item	Functional Specification	I-D Status	Functional Rank	TEST Priority	Functional Category	Ver2.0		Reason of TEST Priority
									Support ed	Test No.	
2			sending Neighbor Advertisement message	In order to do this, when a node begins serving as the home agent it MUST multicast onto the home link a Neighbor Advertisement message[12] on behalf of the mobile node. For the home address specified in the Binding Update, the home agent sends a Neighbor Advertisement message [12] to the all-nodes multicast address on the home link, to advertise the home agent's own link-layer address for this IP address on behalf of the mobile node.	MUST	A	A2	1	X	HA_4_1_1 HA_4_1_2	virtual home network
3				If the Link-Layer Address Compatibility (L) flag has been specified in the Binding Update, the home agent MUST do the same for the link-local address of the mobile node.	MUST	A	A2	1	X	HA_4_11 HA_4_1_2	virtual home network
4			Neighbor Advertisement message	All fields in each such Neighbor Advertisement message SHOULD be set in the same way they would be set by the mobile node itself if sending this Neighbor Advertisement [12] while at home.	SHOULD	A	A2	1	X	HA_4_11 HA_4_1_2	virtual home network
5				The Target Address in the Neighbor Advertisement MUST be set to the specific IP address for the mobile node.	MUST	A	A2	1	X	HA_4_11 HA_4_1_2	virtual home network

Functional classification and test priority for HA

No.	I-D Section	I-D Section title	Item	Functional Specification	I-D Status	Functional Rank	TEST Priority	Functional Category	Ver2.0		Reason of TEST Priority
									Support ed	Test No.	
6				The Advertisement MUST include a Target Link-layer Address option specifying the home agent's link-layer address.	MUST	A	A2	1	X	HA_4_11 HA_4_1_2	virtual home network
7				The Router (R) bit in the Advertisement MUST be set to zero.	MUST	A	A2	1	X	HA_4_11 HA_4_1_2	virtual home network
8				The Solicited Flag (S) in the Advertisement MUST NOT be set, since it was not solicited by any Neighbor Solicitation.	MUST NOT	A	A2	1	X	HA_4_11 HA_4_1_2	virtual home network
9				The Override Flag (O) in the Advertisement MUST be set, indicating that the Advertisement SHOULD override any existing Neighbor Cache entry at any node receiving it.	MUST	A	A2	1	X	HA_4_11 HA_4_1_2	virtual home network
10				SHOULD	A	A2	1	X	HA_4_11 HA_4_1_2	virtual home network	
11				The Source Address in the IPv6 header MUST be set to the home agent's IP address on the interface used to send the advertisement.	MUST	A	A2	1	X	HA_4_11 HA_4_1_2	virtual home network

Functional classification and test priority for HA

No.	I-D Section	I-D Section title	Item	Functional Specification	I-D Status	Functional Rank	TEST Priority	Functional Category	Ver2.0		Reason of TEST Priority
									Support ed	Test No.	
12			retransmittin g Neighbor Advetisement message	Since multicasting on the local link (such as Ethernet) is typically not guaranteed to be reliable, the home agent MAY retransmit this Neighbor Advertisement message up to MAX_NEIGHBOR_ADVERTISEMEN T (see [12]) times to increase its reliability.	MAY	C	-	-			This function is implementaion- dependent. It does not effect on interoperability.

Functional classification and test priority for HA

No.	I-D Section	I-D Section title	Item	Functional Specification	I-D Status	Functional Rank	TEST Priority	Functional Category	Ver2.0		Reason of TEST Priority
									Support ed	Test No.	
13			acting as a proxy for a mobile node	In order to intercept packets in this way, the home agent MUST act as a proxy for this mobile node, and reply to any received Neighbor Solicitations for it.	MUST	A	A2	1	X	HA_4_2_1 HA_4_2_2 HA_4_2_3 HA_4_2_4 HA_4_2_5 HA_4_2_6 HA_4_2_7 HA_4_2_8 HA_4_2_9 HA_4_2_13 HA_4_2_14 HA_4_2_15 HA_4_4_1 HA_4_4_2 HA_4_4_3 HA_4_4_4 HA_4_4_5 HA_4_4_6 HA_4_4_7 HA_4_4_8 HA_4_4_9 HA_4_4_13 HA_4_4_14 HA_4_4_15	virtual home network

Functional classification and test priority for HA

No.	I-D Section	I-D Section title	Item	Functional Specification	I-D Status	Functional Rank	TEST Priority	Functional Category	Ver2.0		Reason of TEST Priority
									Support ed	Test No.	
14				When a home agent receives a Neighbor Solicitation, it MUST check if the Target Address specified in the message matches the address of any mobile node for which it has a Binding Cache entry marked as a home registration.	MUST	A	A2	1	X	HA_4_2_10 HA_4_2_11 HA_4_2_12 HA_4_2_16 HA_4_3_1 HA_4_3_2 HA_4_3_3 HA_4_3_4 HA_4_3_5 HA_4_3_6 HA_4_3_7 HA_4_3_8 HA_4_3_9 HA_4_3_10 HA_4_3_11 HA_4_3_12 HA_4_3_13 HA_4_3_14 HA_4_3_15 HA_4_3_16	virtual home network

Functional classification and test priority for HA

No.	I-D Section	I-D Section title	Item	Functional Specification	I-D Status	Functional Rank	TEST Priority	Functional Category	Ver2.0		Reason of TEST Priority
									Support ed	Test No.	
15			replying to the Neighbor Solicitation	If such an entry exists in the home agent's Binding Cache, the home agent MUST reply to the Neighbor Solicitation with a Neighbor Advertisement, giving the home agent's own link-layer address as the link-layer address for the specified Target Address. In addition, the Router (R) bit in the Advertisement MUST be set to zero.	MUST	A	A2	1	X	HA_4_2_1 HA_4_2_2 HA_4_2_3 HA_4_2_4 HA_4_2_5 HA_4_2_6 HA_4_2_7 HA_4_2_8 HA_4_2_9 HA_4_2_13 HA_4_2_14 HA_4_2_15 HA_4_4_1 HA_4_4_2 HA_4_4_3 HA_4_4_4 HA_4_4_5 HA_4_4_6 HA_4_4_7 HA_4_4_8 HA_4_4_9 HA_4_4_13 HA_4_4_14 HA_4_4_15	virtual home network

Functional classification and test priority for HA

No.	I-D Section	I-D Section title	Item	Functional Specification	I-D Status	Functional Rank	TEST Priority	Functional Category	Ver2.0		Reason of TEST Priority
									Support ed	Test No.	
16					MUST	A	A2	1	X	HA_4_2_1 HA_4_2_2 HA_4_2_3 HA_4_2_4 HA_4_2_5 HA_4_2_6 HA_4_2_7 HA_4_2_8 HA_4_2_9 HA_4_2_13 HA_4_2_14 HA_4_2_15 HA_4_4_1 HA_4_4_2 HA_4_4_3 HA_4_4_4 HA_4_4_5 HA_4_4_6 HA_4_4_7 HA_4_4_8 HA_4_4_9 HA_4_4_13 HA_4_4_14 HA_4_4_15	virtual home network

Functional classification and test priority for HA

No.	I-D Section	I-D Section title	Item	Functional Specification	I-D Status	Functional Rank	TEST Priority	Functional Category	Ver2.0		Reason of TEST Priority
									Support ed	Test No.	
17	10.4.2	Processing Intercepted Packets	sending packets to a Mobile Node	<p><u>For any packet sent to a mobile node from the mobile node's home agent (for which the home agent is the original sender of the packet), the home agent is operating as a correspondent node of the mobile node for this packet and the procedures described in Section 9.3.2 apply.</u></p> <p><u>Section 9.3.2</u> <u>Before sending any packet, the sending node SHOULD examine its Binding Cache for an entry for the destination address to which the packet is being sent.</u> <u>If the sending node has a Binding Cache entry for this address, the sending node SHOULD use a type 2 routing header to route the packet to this mobile node (the destination node) by way of its care-of address.</u></p>	(do)	A	A1	1	X	HA_1_1_5,HA_1_1_6,HA_1_1_7, HA_2_1_1,HA_2_1_2,HA_2_1_3, HA_2_1_4,HA_2_1_5,HA_2_1_6, HA_2_1_7,HA_2_1_8,HA_2_3_1, HA_2_3_2,HA_2_5_1,HA_2_5_2, HA_2_5_3,HA_2_5_4,HA_2_5_5, HA_2_5_6,HA_2_5_7,HA_2_5_8, HA_2_6_1,HA_2_6_2,HA_2_6_3, HA_2_6_4,HA_2_6_5,HA_2_6_6, HA_2_6_7,HA_2_6_8,HA_2_6_9, HA_2_6_10,HA_2_6_11,HA_2_6_12, HA_2_7_1,HA_2_7_2,HA_2_7_3, HA_2_7_4,HA_2_7_5,HA_2_7_6, HA_2_7_7,HA_2_7_8,HA_2_8_1, HA_2_8_2,HA_2_8_3,HA_2_8_4, HA_2_8_5,HA_2_8_6,HA_2_8_7, HA_2_8_8,HA_2_8_9,HA_2_8_10, HA_2_8_11,HA_2_8_12,HA_3_1_1, HA_3_1_2,HA_3_1_3,HA_3_1_4, HA_3_1_5,HA_3_1_6,HA_3_1_7, HA_3_1_8,HA_3_1_9,HA_3_1_10, HA_3_1_11,HA_3_1_12,HA_3_3_1, HA_3_3_2,HA_3_3_3,HA_3_3_4, HA_4_1_1,HA_4_1_2,HA_4_2_1, HA_4_2_2,HA_4_2_3,HA_4_2_4, HA_4_2_5,HA_4_2_6,HA_4_2_7, HA_4_2_8,HA_4_2_9,HA_4_2_10, HA_4_2_11,HA_4_2_12,HA_4_2_13, HA_4_2_14,HA_4_2_15,HA_4_2_16, HA_4_3_1,HA_4_3_2,HA_4_3_3, HA_4_3_4,HA_4_3_5,HA_4_3_6, HA_4_3_7,HA_4_3_8,HA_4_3_9, HA_4_3_10,HA_4_3_11,HA_4_3_12, HA_4_3_13,HA_4_3_14,HA_4_3_15, HA_4_3_16,HA_4_4_1,HA_4_4_2, HA_4_4_3,HA_4_4_4,HA_4_4_5, HA_4_4_6,HA_4_4_7,HA_4_4_8, HA_4_4_9,HA_4_4_13,HA_4_4_14, HA_4_4_15,HA_5_1_1,HA_5_1_2, HA_5_1_3,HA_5_1_4,HA_5_1_5, HA_5_1_6,HA_5_1_7,HA_6_1_1, HA_6_1_2,HA_6_1_3,HA_6_1_4, HA_6_2_1,HA_6_2_2,HA_6_3_1, HA_6_3_2,HA_6_3_3,HA_6_3_4, HA_6_3_5,HA_6_3_6,HA_6_3_7, HA_6_3_8,HA_6_3_9,HA_6_3_10, HA_8_1_1,HA_8_1_2	

Functional classification and test priority for HA

No.	I-D Section	I-D Section title	Item	Functional Specification	I-D Status	Functional Rank	TEST Priority	Functional Category	Ver2.0		Reason of TEST Priority
									Support ed	Test No.	
18				<u>The home agent then uses a routing header to route the packet to the mobile node by way of the primary care-of address in the home agent's Binding Cache.</u>	(do)	A	A1	1	X	HA_1_1_5,HA_1_1_6,HA_1_1_7, HA_2_1_1,HA_2_1_2,HA_2_1_3, HA_2_1_4,HA_2_1_5,HA_2_1_6, HA_2_1_7,HA_2_1_8,HA_2_3_1, HA_2_3_2,HA_2_5_1,HA_2_5_2, HA_2_5_3,HA_2_5_4,HA_2_5_5, HA_2_5_6,HA_2_5_7,HA_2_5_8, HA_2_6_1,HA_2_6_2,HA_2_6_3, HA_2_6_4,HA_2_6_5,HA_2_6_6, HA_2_6_7,HA_2_6_8,HA_2_6_9, HA_2_6_10,HA_2_6_11,HA_2_6_12, HA_2_7_1,HA_2_7_2,HA_2_7_3, HA_2_7_4,HA_2_7_5,HA_2_7_6, HA_2_7_7,HA_2_7_8,HA_2_8_1, HA_2_8_2,HA_2_8_3,HA_2_8_4, HA_2_8_5,HA_2_8_6,HA_2_8_7, HA_2_8_8,HA_2_8_9,HA_2_8_10, HA_2_8_11,HA_2_8_12,HA_3_1_1, HA_3_1_2,HA_3_1_3,HA_3_1_4, HA_3_1_5,HA_3_1_6,HA_3_1_7, HA_3_1_8,HA_3_1_9,HA_3_1_10, HA_3_1_11,HA_3_1_12,HA_3_3_1, HA_3_3_2,HA_3_3_3,HA_3_3_4, HA_4_1_1,HA_4_1_2,HA_4_2_1, HA_4_2_2,HA_4_2_3,HA_4_2_4, HA_4_2_5,HA_4_2_6,HA_4_2_7, HA_4_2_8,HA_4_2_9,HA_4_2_10, HA_4_2_11,HA_4_2_12,HA_4_2_13, HA_4_2_14,HA_4_2_15,HA_4_2_16, HA_4_3_1,HA_4_3_2,HA_4_3_3, HA_4_3_4,HA_4_3_5,HA_4_3_6, HA_4_3_7,HA_4_3_8,HA_4_3_9, HA_4_3_10,HA_4_3_11,HA_4_3_12, HA_4_3_13,HA_4_3_14,HA_4_3_15, HA_4_3_16,HA_4_4_1,HA_4_4_2, HA_4_4_3,HA_4_4_4,HA_4_4_5, HA_4_4_6,HA_4_4_7,HA_4_4_8, HA_4_4_9,HA_4_4_13,HA_4_4_14, HA_4_4_15,HA_5_1_1,HA_5_1_2, HA_5_1_3,HA_5_1_4,HA_5_1_5, HA_5_1_6,HA_5_1_7,HA_6_1_1, HA_6_1_2,HA_6_1_3,HA_6_1_4, HA_6_2_1,HA_6_2_2,HA_6_3_1, HA_6_3_2,HA_6_3_3,HA_6_3_4, HA_6_3_5,HA_6_3_6,HA_6_3_7, HA_6_3_8,HA_6_3_9,HA_6_3_10, HA_8_1_1,HA_8_1_2	

Functional classification and test priority for HA

No.	I-D Section	I-D Section title	Item	Functional Specification	I-D Status	Functional Rank	TEST Priority	Functional Category	Ver2.0		Reason of TEST Priority
									Support ed	Test No.	
19			forwarding packets to a Mobile Node	In order to forward each intercepted packet to the mobile node, the home agent MUST tunnel the packet to the mobile node using IPv6 encapsulation [15].	MUST	A	A1	1	X	HA_5_1_1 HA_5_1_3 HA_5_1_4 HA_5_1_5 HA_5_1_6 HA_5_1_7 HA_6_3_3 HA_6_3_4 HA_6_3_7 HA_6_3_8	
20	10.4.2			<u>When a home agent encapsulates an intercepted packet for forwarding to the mobile node, the home agent sets the Source Address in the new tunnel IP header to the home agent's own IP address, and sets the Destination Address in the tunnel IP header to the mobile node's primary care-of address.</u>	(do)	A	A1	1	X	HA_5_1_1 HA_5_1_3 HA_5_1_4 HA_5_1_5 HA_5_1_6 HA_5_1_7 HA_6_3_3 HA_6_3_4 HA_6_3_7 HA_6_3_8	
21	9.3.4			By the definition of IPv6 encapsulation [15], the home agent MUST relay certain ICMP error messages back to the original sender of the packet, which in this case is the correspondent node.	MUST	A	A1	2	X	HA_5_1_3 HA_5_1_7	
22	10.4.2		Processing packets to the mobile node's link-local address	However, packets addressed to the mobile node's link-local address MUST NOT be tunneled to the mobile node.	MUST NOT	A	A2	2	X	HA_5_1_2	virtual home network
23				Instead, such a packet MUST be discarded, and the home agent	MUST	A	A2	2	X	HA_5_1_2	virtual home network

Functional classification and test priority for HA

No.	I-D Section	I-D Section title	Item	Functional Specification	I-D Status	Functional Rank	TEST Priority	Functional Category	Ver2.0		Reason of TEST Priority
									Support ed	Test No.	
24				SHOULD return an ICMP Destination Unreachable, Code 3, message to the packet's Source Address (unless this Source Address is a multicast address).	SHOULD	A	A2	2	X	HA_5_1_2	virtual home network
25			Processing packets to the mobile node's site-local address	Packets addressed to the mobile node's site-local address SHOULD NOT be tunneled to the mobile node by default.	SHOULD NOT	A	A2	2			site-local address
26			Processing packets to the mobile node's multicast address	Multicast packets addressed to a multicast address with link-local scope [3], to which the mobile node is subscribed, MUST NOT be tunneled to the mobile node; such packets SHOULD be silently discarded (after delivering to other local multicast recipients).	MUST NOT	A	A2	2			Multicast
27					SHOULD	A	A2	2			Multicast
28				Multicast packets addressed to a multicast address with scope larger than link-local but smaller than global (e.g., site-local and organization-local [3]), to which the mobile node is subscribed, SHOULD NOT be tunneled to the mobile node.	SHOULD NOT	A	A2	2			site-local address

Functional classification and test priority for HA

No.	I-D Section	I-D Section title	Item	Functional Specification	I-D Status	Functional Rank	TEST Priority	Functional Category	Ver2.0		Reason of TEST Priority
									Support ed	Test No.	
29				Multicast packets addressed with a global scope to which the mobile node has successfully subscribed MUST be tunneled to the mobile node.	MUST	A	A2	1			Multicast
30				Before tunneling a packet to the mobile node, the home agent MUST perform any IPsec processing as indicated by the security policy data base.	MUST	A	A2	1	X	HA_6_3_3 HA_6_3_4 HA_6_3_7 HA_6_3_8	Return Routability
31	10.4.3	Multicast Membership Control	not supporting Multicast Membership Control	<u>This section is a prerequisite for the multicast data packet forwarding described in the previous section. If this support is not provided, multicast group membership control messages are silently ignored.</u>	(do)	A	A2	1			Multicast
32			receiving tunneled multicast group membership control information	In order to forward multicast data packets from the home network to all the proper mobile nodes the home agent SHOULD be capable of receiving tunneled multicast group membership control information from the mobile node in order to determine which groups the mobile node has subscribed to.	SHOULD	A	A2	1			Multicast

Functional classification and test priority for HA

No.	I-D Section	I-D Section title	Item	Functional Specification	I-D Status	Functional Rank	TEST Priority	Functional Category	Ver2.0		Reason of TEST Priority
									Support ed	Test No.	
33			periodically transmit MLD Query messages	<u>To obtain the mobile node's current multicast group membership the home agent must periodically transmit MLD Query messages through the tunnel to the mobile node.</u>	(do)	A	A2	1			Multicast
34				<u>These MLD periodic transmissions will ensure the home agent has an accurate record of the groups in which the mobile node is interested despite packet losses of the mobile node's MLD group membership messages.</u>	(do)	A	A2	1			Multicast
35			processing MLD packets	<u>The MLD packets between the mobile node and the home agent are encapsulated within the same tunnel header used for other packet flows between the mobile node and home agent.</u>	(do)	A	A2	1			Multicast
36				<u>To avoid ambiguity on the home agent due to mobile nodes which may choose identical link-local source addresses for their MLD function it is necessary for the home agent to identify which mobile node was actually the issuer of a particular MLD message. This may be accomplished by noting which tunnel such an MLD arrived by, which IPsec SA was used, or by other distinguishing means.</u>	(do)	A	A2	1			Multicast

Functional classification and test priority for HA

No.	I-D Section	I-D Section title	Item	Functional Specification	I-D Status	Functional Rank	TEST Priority	Functional Category	Ver2.0		Reason of TEST Priority
									Support ed	Test No.	
37	10.4.4	10.4.4 Stateful Address Autoconfiguration	stateful address autoconfiguration mechanisms	<u>This section describes how home agents support the use of stateful address autoconfiguration mechanisms such as DHCPv6 [29] from the mobile nodes. If this support is not provided, then the M and O bits must remain cleared on the Mobile Prefix Advertisement Messages.</u>	(do)	B	B	1			stateful address autoconfiguration
38				<u>Mobile nodes desiring to locate a DHCPv6 service may reverse tunnel standard DHCPv6 packets to the home agent. Since these link-scope packets can not be forwarded onto the home network it is necessary for the home agent to either implement a DHCPv6 relay agent or a DHCPv6 server function itself.</u>	(do)	B	B	1			stateful address autoconfiguration
39				<u>DHCPv6 messages sent to the mobile node with a link-local destination must be tunneled within the same tunnel header used for other packet flows.</u>	(do)	B	B	1			stateful address autoconfiguration

Functional classification and test priority for HA

No.	I-D Section	I-D Section title	Item	Functional Specification	I-D Status	Functional Rank	TEST Priority	Functional Category	Ver2.0		Reason of TEST Priority
									Support ed	Test No.	
40	10.4.5	Handling Reverse Tunneled Packets	Home agents MUST support reverse tunneling as follows:	The tunneled traffic arrives to the home agent's address using IPv6 encapsulation [15].	MUST	A	A1	1	X	HA_6_1_1 HA_6_1_2 HA_6_1_3 HA_6_1_4 HA_6_3_1 HA_6_3_2 HA_6_3_3 HA_6_3_4 HA_6_3_5 HA_6_3_6 HA_6_3_7 HA_6_3_8	
41				Depending on the security policies used by the home agent, reverse tunneled packets MAY be discarded unless accompanied by a valid ESP header.	MAY	B	B	2	X	HA_6_3_9 HA_6_3_10	IPsec Protection of the payload packets tunneled between MN and HA

Functional classification and test priority for HA

No.	I-D Section	I-D Section title	Item	Functional Specification	I-D Status	Functional Rank	TEST Priority	Functional Category	Ver2.0		Reason of TEST Priority
									Support ed	Test No.	
42				When a home agent decapsulates a tunneled packet from the mobile node, the home agent MUST verify that the Source Address in the tunnel IP header is the mobile node's primary care-of address. Otherwise any node in the Internet could send traffic through the home agent and escape ingress filtering limitations.	MUST	A	A1	1	X	HA_6_2_1 HA_6_2_2	
43	additional			Reverse tunneled packets are discarded if there is no Binding Cache entry.	(add)	A	A1	2	X	HA_6_2_1 HA_6_2_2	
44	10.4.6	Protecting Return Routability Packets	supporting tunnel mode IPsec ESP	Therefore, the home agent MUST support tunnel mode IPsec ESP for the protection of packets belonging to the return routability procedure.	MUST	A	A2	1	X	HA_6_3_1 HA_6_3_2 HA_6_3_3 HA_6_3_4 HA_6_3_5 HA_6_3_6 HA_6_3_7 HA_6_3_8	Return Routability

Functional classification and test priority for HA

No.	I-D Section	I-D Section title	Item	Functional Specification	I-D Status	Functional Rank	TEST Priority	Functional Category	Ver2.0		Reason of TEST Priority
									Support ed	Test No.	
45				Support for a non-null encryption transform and authentication algorithm MUST be available.	MUST	A	A2	1	X	HA_6_3_1 HA_6_3_2 HA_6_3_3 HA_6_3_4 HA_6_3_5 HA_6_3_6 HA_6_3_7 HA_6_3_8	Return Routability
46				The home agent MUST set the new care-of address as the destination address of these packets, as if the outer header destination address in the security association had changed [21].	MUST	A	A2	1	X	HA_6_3_2 HA_6_3_4 HA_6_3_6 HA_6_3_8	Return Routability

Functional classification and test priority for HA

No.	I-D Section	I-D Section title	Item	Functional Specification	I-D Status	Functional Rank	TEST Priority	Functional Category	Ver2.0		Reason of TEST Priority
									Support ed	Test No.	
47				When IPsec is used to protect return routability signaling or payload packets, this protection MUST only be applied to the return routability packets entering the IPv6 encapsulated tunnel interface between the mobile node and the home agent.	MUST	A	A2	1	X	HA_6_3_1 HA_6_3_2 HA_6_3_3 HA_6_3_4 HA_6_3_5 HA_6_3_6 HA_6_3_7 HA_6_3_8	Return Routability

Functional classification and test priority for HA

No.	I-D Section	I-D Section title	Item	Functional Specification	I-D Status	Functional Rank	TEST Priority	Functional Category	Ver2.0		Reason of TEST Priority
									Supported	Test No.	
1	10.5.1	Dynamic Home Agent Address Discovery: Receiving Router Advertisement Messages	On receipt of a valid Router Advertisement, as defined in the processing algorithm specified for Neighbor Discovery [12], the home agent	<u>o If the Home Agent (H) bit in the Router Advertisement is not set, delete the sending node's entry in the current Home Agents List (if one exists). Skip all the following steps.</u>	(do)	A	A2	1	X	HA_7_4_1	Dynamic Home Agent Address Discovery
2	10.5.1		performs the following steps, in addition to any steps already required of it by Neighbor Discovery:	<u>o Otherwise, extract the Source Address from the IP header of the Router Advertisement. This is the link-local IP address on this link of the home agent sending this Advertisement [12].</u>	(do)	A	A2	1	X	HA_7_2_1 HA_7_2_2 HA_7_2_3 HA_7_2_4 HA_7_2_5 HA_7_2_6 HA_7_2_7 HA_7_2_8 HA_7_2_9 HA_7_2_10 HA_7_2_11 HA_7_2_12 HA_7_2_13 HA_7_2_14 HA_7_2_15 HA_7_3_1 HA_7_3_2 HA_7_4_1 HA_7_4_2 HA_7_5_1	Dynamic Home Agent Address Discovery

Functional classification and test priority for HA

No.	I-D Section	I-D Section title	Item	Functional Specification	I-D Status	Functional Rank	TEST Priority	Functional Category	Ver2.0		Reason of TEST Priority
									Supported	Test No.	
3	10.5.1			o Determine the preference for this home agent. If the Router Advertisement contains a Home Agent Information Option, then the preference is taken from the Home Agent Preference field in the option; otherwise, the default preference of 0 MUST be used.	MUST	A	A2	1	X	HA_7_2_9	Dynamic Home Agent Address Discovery
4	10.5.1			o Determine the lifetime for this home agent. If the Router Advertisement contains a Home Agent Information Option, then the lifetime is taken from the Home Agent Lifetime field in the option; otherwise, the lifetime specified by the Router Lifetime field in the Router Advertisement SHOULD be used.	SHOULD	A	A2	1	X	HA_7_3_2 HA_7_2_11	Dynamic Home Agent Address Discovery
5	10.5.1			<u>o If the link-local address of the home agent sending this Advertisement is already present in this home agent's Home Agents List and the received home agent lifetime value is zero, immediately delete this entry in the Home Agents List.</u>	(do)	A	A2	1	X	HA_7_3_1 HA_7_3_2	Dynamic Home Agent Address Discovery
6	10.5.1			<u>o Otherwise, if the link-local address of the home agent sending this Advertisement is already present in the receiving home agent's Home Agents List, reset its lifetime and preference to the values determined above.</u>	(do)	A	A2	1	X	HA_7_2_12 HA_7_2_13	Dynamic Home Agent Address Discovery

Functional classification and test priority for HA

No.	I-D Section	I-D Section title	Item	Functional Specification	I-D Status	Functional Rank	TEST Priority	Functional Category	Ver2.0		Reason of TEST Priority
									Supported	Test No.	
7	10.5.1			<p><u>o If the link-local address of the home agent sending this Advertisement is not already present in the Home Agents List maintained by the receiving home agent, and the lifetime for the sending home agent is non-zero, create a new entry in the list, and initialize its lifetime and preference to the values determined above.</u></p>	(do)	A	A2	1	X	HA_7_2_1 HA_7_2_2 HA_7_2_3 HA_7_2_4 HA_7_2_5 HA_7_2_6 HA_7_2_7 HA_7_2_8 HA_7_2_9 HA_7_2_10 HA_7_2_11 HA_7_2_12 HA_7_2_13 HA_7_2_14 HA_7_2_15 HA_7_3_1 HA_7_3_2 HA_7_4_1 HA_7_4_2 HA_7_5_1	Dynamic Home Agent Address Discovery

Functional classification and test priority for HA

No.	I-D Section	I-D Section title	Item	Functional Specification	I-D Status	Functional Rank	TEST Priority	Functional Category	Ver2.0		Reason of TEST Priority
									Supported	Test No.	
8	10.5.1			o <u>If the Home Agents List entry for the link-local address of the home agent sending this Advertisement was not deleted as described above, determine any global address(es) of the home agent based on each Prefix Information option received in this Advertisement in which the Router Address (R) bit is set (Section 7.2). Add all such global addresses to the list of global addresses in this Home Agents List entry.</u>	(do)	A	A2	1	X	HA_7_2_1 HA_7_2_2 HA_7_2_3 HA_7_2_4 HA_7_2_5 HA_7_2_6 HA_7_2_7 HA_7_2_8 HA_7_2_9 HA_7_2_10 HA_7_2_11 HA_7_2_12 HA_7_2_13 HA_7_2_14 HA_7_2_15 HA_7_3_1 HA_7_3_2 HA_7_4_1 HA_7_4_2 HA_7_5_1	Dynamic Home Agent Address Discovery
9	10.5.1			A home agent SHOULD maintain an entry in its Home Agents List for each valid home agent address until that entry's lifetime expires, after which time the entry MUST be deleted.	SHOULD	A	A2	1	X	HA_7_2_10 HA_7_2_11 HA_7_2_13	Dynamic Home Agent Address Discovery
10					MUST	A	A2	1	X	HA_7_2_10 HA_7_2_11 HA_7_2_13	Dynamic Home Agent Address Discovery

Functional classification and test priority for HA

No.	I-D Section	I-D Section title	Item	Functional Specification	I-D Status	Functional Rank	TEST Priority	Functional Category	Ver2.0		Reason of TEST Priority
									Supported	Test No.	
11	10.5.1			A home agent receiving such a Home Agent Address Discovery Request message that is serving this subnet SHOULD return an ICMP Home Agent Address Discovery Reply message to the mobile node, with the Source Address of the Reply packet set to one of the global unicast addresses of the home agent.	SHOULD	A	A2	1	X	HA_7_1_1 HA_7_1_2 HA_7_2_1 HA_7_2_2 HA_7_2_3 HA_7_2_4 HA_7_2_5 HA_7_2_6 HA_7_2_7 HA_7_2_8 HA_7_2_9 HA_7_2_10 HA_7_2_11 HA_7_2_12 HA_7_2_13 HA_7_2_14 HA_7_2_15 HA_7_3_1 HA_7_3_2 HA_7_4_1 HA_7_4_2 HA_7_5_1	Dynamic Home Agent Address Discovery

Functional classification and test priority for HA

No.	I-D Section	I-D Section title	Item	Functional Specification	I-D Status	Functional Rank	TEST Priority	Functional Category	Ver2.0		Reason of TEST Priority
									Supported	Test No.	
12	10.5.1		The Home Agent Addresses field in the Reply message is constructed as follows:	o The Home Agent Addresses field SHOULD contain all global IP addresses for each home agent currently listed in this home agent's own Home Agents List (Section 10.1).	SHOULD	A	A2	1	X	HA_7_1_1 HA_7_1_2 HA_7_2_1 HA_7_2_2 HA_7_2_3 HA_7_2_4 HA_7_2_5 HA_7_2_6 HA_7_2_7 HA_7_2_8 HA_7_2_9 HA_7_2_10 HA_7_2_11 HA_7_2_12 HA_7_2_13 HA_7_2_14 HA_7_2_15 HA_7_3_1 HA_7_3_2 HA_7_4_1 HA_7_4_2 HA_7_5_1	Dynamic Home Agent Address Discovery

Functional classification and test priority for HA

No.	I-D Section	I-D Section title	Item	Functional Specification	I-D Status	Functional Rank	TEST Priority	Functional Category	Ver2.0		Reason of TEST Priority
									Supported	Test No.	
13	10.5.1			o The IP addresses in the Home Agent Addresses field SHOULD be listed in order of decreasing preference values, based either on the respective advertised preference from a Home Agent Information option or on the default preference of 0 if no preference is advertised (or on the configured home agent preference for this home agent itself).	SHOULD	A	A2	1	X	HA_7_1_1 HA_7_1_2 HA_7_2_1 HA_7_2_2 HA_7_2_3 HA_7_2_4 HA_7_2_5 HA_7_2_6 HA_7_2_7 HA_7_2_8 HA_7_2_9 HA_7_2_10 HA_7_2_11 HA_7_2_12 HA_7_2_13 HA_7_2_14 HA_7_2_15 HA_7_3_1 HA_7_3_2 HA_7_4_1 HA_7_4_2 HA_7_5_1	Dynamic Home Agent Address Discovery
14	10.5.1			o Among home agents with equal preference, their IP addresses in the Home Agent Addresses field SHOULD be listed in an order randomized with respect to other home agents with equal preference, each time a Home Agent Address Discovery Reply message is returned by this home agent.	SHOULD	A	A2	1	X	HA_7_2_14	Dynamic Home Agent Address Discovery

Functional classification and test priority for HA

No.	I-D Section	I-D Section title	Item	Functional Specification	I-D Status	Functional Rank	TEST Priority	Functional Category	Ver2.0		Reason of TEST Priority
									Supported	Test No.	
15	10.5.1			o If more than one global IP address is associated with a home agent, these addresses SHOULD be listed in a randomized order.	SHOULD	A	A2	1	X	HA_7_2_15	Dynamic Home Agent Address Discovery
16	10.5.1			o The home agent SHOULD reduce the number of home agent IP addresses so that the packet fits within the minimum IPv6 MTU [11]. The home agent addresses selected for inclusion in the packet SHOULD be those from the complete list with the highest preference. This limitation avoids the danger of the Reply message packet being fragmented (or rejected by an intermediate router with an ICMP Packet Too Big message [14]).	SHOULD	A	A2	1	X	HA_7_5_1	Dynamic Home Agent Address Discovery

Functional classification and test priority for HA

No.	I-D Section	I-D Section title	Item	Functional Specification	I-D Status	Functional Rank	TEST Priority	Functional Category	Ver2.0		Reason of TEST Priority
									Supported	Test No.	
1	10.6.1.	List of Home Network Prefixes	monitoring prefixes and passing them on to MNs	To support this, the home agent monitors prefixes advertised by itself and other home agents on the home link.	(do)	A	A2	1			ICMP Mobile Prefix Solicitation/ ICMP Mobile Prefix Advertisement internal behavior
2	10.6.2	Scheduling Prefix Deliveries	A home agent serving a mobile node will schedule the delivery of new prefix information to that mobile node when any of the following conditions occur: MUST:	The state of the flags changes for the prefix of the mobile node's registered home address.	MUST	A	A2	1	X	HA_8_1_10	ICMP Mobile Prefix Solicitation/ ICMP Mobile Prefix Advertisement virtual home link
3				The valid or preferred lifetime is reconfigured or changes for any reason other than advancing real time.	MUST	A	A2	1	X	HA_8_1_11	ICMP Mobile Prefix Solicitation/ ICMP Mobile Prefix Advertisement virtual home link
4				The mobile node requests the information with a Mobile Prefix Solicitation (see Section 11.4.2).	MUST	A	A2	1	X	HA_8_1_1 HA_8_1_2 HA_8_1_7 HA_8_1_8	ICMP Mobile Prefix Solicitation/ ICMP Mobile Prefix Advertisement
5	additional			When a home agent receives a Mobile Prefix Solicitation without a Home Address destination option, the home agent discards the message	(add)	A	A2	2	X	HA_8_1_5 HA_8_1_6	ICMP Mobile Prefix Solicitation/ ICMP Mobile Prefix Advertisement
6	additional			When a home agent receives a Mobile Prefix Solicitation form a mobile node before a home registration, the home agent sends a Binding Error message to the mobile node.	(add)	A	A2	2	X	HA_8_1_3 HA_8_1_4	ICMP Mobile Prefix Solicitation/ ICMP Mobile Prefix Advertisement

Functional classification and test priority for HA

No.	I-D Section	I-D Section title	Item	Functional Specification	I-D Status	Functional Rank	TEST Priority	Functional Category	Ver2.0		Reason of TEST Priority
									Supported	Test No.	
7	additional			When a home agent receives a Mobile Prefix Solicitation form a mobile node on home link, the home agent discards the message.	(add)	A	A2	2	X	HA_8_1_9	ICMP Mobile Prefix Solicitation/ ICMP Mobile Prefix Advertisement virtual home link
8			A home agent serving a mobile node will schedule the delivery of new prefix information to that mobile node when any of the following conditions occur: SHOULD:	A new prefix is added to the home subnet interface(s) of the home agent.	SHOULD	A	A2	1	X	HA_8_1_12	ICMP Mobile Prefix Solicitation/ ICMP Mobile Prefix Advertisement
9			A home agent serving a mobile node will schedule the delivery of new prefix information to that mobile node when any of the following conditions occur: MAY:	The valid or preferred lifetime or the state of the flags changes for a prefix which is not used in any Binding Cache entry for this mobile node.	MAY	B	B	1			ICMP Mobile Prefix Solicitation/ ICMP Mobile Prefix Advertisement implementation matter

Functional classification and test priority for HA

No.	I-D Section	I-D Section title	Item	Functional Specification	I-D Status	Functional Rank	TEST Priority	Functional Category	Ver2.0		Reason of TEST Priority
									Supported	Test No.	
10			algorithm to determine when to send prefix information	If a mobile node sends a solicitation, answer right away.	(do)	A	A2	1	X	HA_8_1_1 HA_8_1_2	ICMP Mobile Prefix Solicitation/ ICMP Mobile Prefix Advertisement
11				If no Mobile Prefix Advertisement has been sent to the mobile node in the last MaxMobPfxAdvInterval (see Section 13) seconds, then ensure that a transmission is scheduled. The actual transmission time is randomized as described below.	(do)	A	A2	1	X	HA_8_1_13 HA_8_1_14	ICMP Mobile Prefix Solicitation/ ICMP Mobile Prefix Advertisement
12				If a prefix matching the mobile node's home registration is added on the home subnet interface, , or if its information changes in any way that does not deprecate the mobile node's address, ensure that a transmission is scheduled. The actual transmission time is randomized as described below.	(do)	A	A2	1	X	HA_8_1_13 HA_8_1_14	ICMP Mobile Prefix Solicitation/ ICMP Mobile Prefix Advertisement
13				If a home registration expires, cancel any scheduled advertisements to the mobile node.	(do)	A	A2	1	X	HA_8_1_13 HA_8_1_14	ICMP Mobile Prefix Solicitation/ ICMP Mobile Prefix Advertisement
14			scheduling the transmission of a Mobile Prefix Advertisement	If the home agent already has scheduled the transmission of a Mobile Prefix Advertisement to the mobile node, the home agent replaces the advertisement with a new one, to be sent at the scheduled time	(do)	A	A2	1	X	HA_8_1_13 HA_8_1_14	ICMP Mobile Prefix Solicitation/ ICMP Mobile Prefix Advertisement

Functional classification and test priority for HA

No.	I-D Section	I-D Section title	Item	Functional Specification	I-D Status	Functional Rank	TEST Priority	Functional Category	Ver2.0		Reason of TEST Priority
									Supported	Test No.	
15				<p>Otherwise, the home agent computes a fresh value for RAND_ADV_DELAY, the offset from the current time for the scheduled transmission as follows. First calculate the maximum delay for the scheduled Advertisement: MaxScheduleDelay = min (MaxMobPfxAdvInterval, Preferred Lifetime), where MaxMobPfxAdvInterval is as defined in Section 12. Then compute the final delay for the advertisement: RAND_ADV_DELAY = MinMobPfxAdvInterval + (rand() % abs(MaxScheduleDelay - MinMobPfxAdvInterval)) Here rand() returns a random integer value in the range of 0 to the maximum possible integer value.</p>	(do)	A	A2	1	X	HA_8_1_13 HA_8_1_14	ICMP Mobile Prefix Solicitation/ ICMP Mobile Prefix Advertisement
16				<p>In addition, a home agent MAY further reduce the rate of packet transmission by further delaying individual advertisements, if needed to avoid overwhelming local network resources.</p>	MAY	C	-	-			This function is implementaion-dependent. It does not effect on interoperability.

Functional classification and test priority for HA

No.	I-D Section	I-D Section title	Item	Functional Specification	I-D Status	Functional Rank	TEST Priority	Functional Category	Ver2.0		Reason of TEST Priority
									Supported	Test No.	
17				The home agent SHOULD periodically continue to retransmit an unsolicited Advertisement to the mobile node, until it is acknowledged by the receipt of a Mobile Prefix Solicitation from the mobile node.	SHOULD	A	A2	1	X	HA_8_1_13 HA_8_1_14	ICMP Mobile Prefix Solicitation/ ICMP Mobile Prefix Advertisement
18				The home agent MUST wait PREFIX_ADV_TIMEOUT (see Section 12) before the first retransmission, and double the retransmission wait time for every succeeding retransmission, up until a maximum of PREFIX_ADV_RETRIES attempts (see Section 12).	MUST	A	A2	1	X	HA_8_1_13 HA_8_1_14	ICMP Mobile Prefix Solicitation/ ICMP Mobile Prefix Advertisement
19				If the mobile node's bindings expire before the matching Binding Update has been received, then the home agent MUST NOT attempt any more retransmissions, even if not all PREFIX_ADV_RETRIES have been retransmitted.	MUST NOT	A	A2	2	X	HA_8_1_13 HA_8_1_14	ICMP Mobile Prefix Solicitation/ ICMP Mobile Prefix Advertisement
20				If the mobile node sends another Binding Update without returning home in the meantime, the home agent SHOULD again begin transmitting the unsolicited Advertisement.	SHOULD	A	A2	1	X	HA_8_1_13 HA_8_1_14	ICMP Mobile Prefix Solicitation/ ICMP Mobile Prefix Advertisement

Functional classification and test priority for HA

No.	I-D Section	I-D Section title	Item	Functional Specification	I-D Status	Functional Rank	TEST Priority	Functional Category	Ver2.0		Reason of TEST Priority
									Supported	Test No.	
21				If some condition as described above occurs on the home link and causes another Prefix Advertisement to be sent to the mobile node, before the mobile node acknowledges a previous transmission, the home agent SHOULD combine any Prefix Information options in the unacknowledged Mobile Prefix Advertisement into a new Advertisement. The home agent discards the old Advertisement.	SHOULD	A	A2	1	X	HA_8_1_13 HA_8_1_14	ICMP Mobile Prefix Solicitation/ ICMP Mobile Prefix Advertisement
22	10.6.3	Sending Advertisements	When sending a Mobile Prefix Advertisement to the mobile node, the home agent MUST construct the packet as follows:	The Source Address in the packet's IPv6 header MUST be set to the home agent's IP address to which the mobile node addressed its current home registration, or its default global home agent address if no binding exists.	MUST	A	A2	1	X	HA_8_1_1 HA_8_1_2	ICMP Mobile Prefix Solicitation/ ICMP Mobile Prefix Advertisement
23				If the advertisement was solicited, it MUST be destined to the source address of the solicitation. If it was triggered by prefix changes or renumbering, the advertisement's destination will be the mobile node's home address in the binding which triggered the rule.	MUST	A	A2	1	X	HA_8_1_1 HA_8_1_2	ICMP Mobile Prefix Solicitation/ ICMP Mobile Prefix Advertisement
24				A type 2 routing header MUST be included with the mobile node's home address.	MUST	A	A2	1	X	HA_8_1_1 HA_8_1_2	ICMP Mobile Prefix Solicitation/ ICMP Mobile Prefix Advertisement

Functional classification and test priority for HA

No.	I-D Section	I-D Section title	Item	Functional Specification	I-D Status	Functional Rank	TEST Priority	Functional Category	Ver2.0		Reason of TEST Priority
									Supported	Test No.	
25				IPsec headers MUST be supported and SHOULD be used.	MUST	A	A2	1	X	HA_8_1_1 HA_8_1_2	ICMP Mobile Prefix Solicitation/ ICMP Mobile Prefix Advertisement
26				The home agent MUST send the packet as it would any other unicast IPv6 packet that it originates.	MUST	A	A2	1	X	HA_8_1_1 HA_8_1_2	ICMP Mobile Prefix Solicitation/ ICMP Mobile Prefix Advertisement
27				Set the Managed Address Configuration (M) flag if the corresponding flag has been set in any of the Router Advertisements from which the prefix information has been learned (including the ones sent by this home agent).	MUST	A	A2	1	X	HA_8_1_1 HA_8_1_2	ICMP Mobile Prefix Solicitation/ ICMP Mobile Prefix Advertisement
28				Set the Other Stateful Configuration (O) flag if the corresponding flag has been set in any of the Router Advertisements from which the prefix information has been learned (including the ones sent by this home agent).	MUST	A	A2	1	X	HA_8_1_1 HA_8_1_2	ICMP Mobile Prefix Solicitation/ ICMP Mobile Prefix Advertisement
29	10.6.4	Lifetimes for Changed Prefixes		As described in Section 10.3.1, the lifetime returned by the home agent in a Binding Acknowledgement MUST be no greater than the remaining valid lifetime for the subnet prefix in the mobile node's home address.	MUST	A	A2	1	X	HA_8_1_7 HA_8_1_8	ICMP Mobile Prefix Solicitation/ ICMP Mobile Prefix Advertisement

Functional classification and test priority for HA

No.	I-D Section	I-D Section title	Item	Functional Specification	I-D Status	Functional Rank	Test Priority	Functional Category	Ver2.0		Reason of a rank
									Supported	Test No.	
1	4.1	Mandatory Support	The following requirements apply to both home agents and mobile nodes:	Manual configuration of IPsec security associations MUST be supported. The configuration of the keys is expected to take place out-of-band, for instance at the time the mobile node is configured to use its home agent.	MUST	A	A1	1	X	HA_1_1_5,HA_1_1_6,HA_1_1_7,HA_2_1_1,HA_2_1_2,HA_2_1_3,HA_2_1_4,HA_2_1_5,HA_2_1_6,HA_2_1_7,HA_2_1_8,HA_2_3_1,HA_2_3_2,HA_2_5_1,HA_2_5_2,HA_2_5_3,HA_2_5_4,HA_2_5_5,HA_2_5_6,HA_2_5_7,HA_2_5_8,HA_2_6_1,HA_2_6_2,HA_2_6_3,HA_2_6_4,HA_2_6_5,HA_2_6_6,HA_2_6_7,HA_2_6_8,HA_2_6_9,HA_2_6_10,HA_2_6_11,HA_2_6_12,HA_2_7_1,HA_2_7_2,HA_2_7_3,HA_2_7_4,HA_2_7_5,HA_2_7_6,HA_2_7_7,HA_2_7_8,HA_2_8_1,HA_2_8_2,HA_2_8_3,HA_2_8_4,HA_2_8_5,HA_2_8_6,HA_2_8_7,HA_2_8_8,HA_2_8_9,HA_2_8_10,HA_2_8_11,HA_2_8_12,HA_3_1_1,HA_3_1_2,HA_3_1_3,HA_3_1_4,HA_3_1_5,HA_3_1_6,HA_3_1_7,HA_3_1_8,HA_3_1_9,HA_3_1_10,HA_3_1_11,HA_3_1_12,HA_3_3_1,HA_3_3_2,HA_3_3_3,HA_3_3_4,HA_4_1_1,HA_4_1_2,HA_4_2_1,HA_4_2_2,HA_4_2_3,HA_4_2_4,HA_4_2_5,HA_4_2_6,HA_4_2_7,HA_4_2_8,HA_4_2_9,HA_4_2_10,HA_4_2_11,HA_4_2_12,HA_4_2_13,HA_4_2_14,HA_4_2_15,HA_4_2_16,HA_4_3_1,HA_4_3_2,HA_4_3_3,HA_4_3_4,HA_4_3_5,HA_4_3_6,HA_4_3_7,HA_4_3_8,HA_4_3_9,HA_4_3_10,HA_4_3_11,HA_4_3_12,HA_4_3_13,HA_4_3_14,HA_4_3_15,HA_4_3_16,HA_4_4_1,HA_4_4_2,HA_4_4_3,HA_4_4_4,HA_4_4_5,HA_4_4_6,HA_4_4_7,HA_4_4_8,HA_4_4_9,HA_4_4_13,HA_4_4_14,HA_4_4_15,HA_5_1_1,HA_5_1_2,HA_5_1_3,HA_5_1_4,HA_5_1_5,HA_5_1_6,HA_5_1_7,HA_6_1_1,HA_6_1_2,HA_6_1_3,HA_6_1_4,HA_6_2_1,HA_6_2_2,HA_6_3_1,HA_6_3_2,HA_6_3_3,HA_6_3_4,HA_6_3_5,HA_6_3_6,HA_6_3_7,HA_6_3_8,HA_6_3_9,HA_6_3_10,HA_8_1_1,HA_8_1_2	
2				Automatic key management with IKE [5] MAY be supported. Only IKEv1 is discussed in this document. Other automatic key management mechanisms exist and will appear beyond IKEv1, but this document does not address the issues related to them.	MAY	B	B	1			IKE

Functional classification and test priority for HA

No.	I-D Section	I-D Section title	Item	Functional Specification	I-D Status	Functional Rank	Test Priority	Functional Category	Ver2.0		Reason of a rank
									Supported	Test No.	
3				ESP encapsulation of Binding Updates and Acknowledgements between the mobile node and home agent MUST be supported and MUST be used.	MUST	A	A1	1	X	HA_1_1_5,HA_1_1_6,HA_1_1_7, HA_2_1_1,HA_2_1_2,HA_2_1_3, HA_2_1_4,HA_2_1_5,HA_2_1_6, HA_2_1_7,HA_2_1_8,HA_2_3_1, HA_2_3_2,HA_2_5_1,HA_2_5_2, HA_2_5_3,HA_2_5_4,HA_2_5_5, HA_2_5_6,HA_2_5_7,HA_2_5_8, HA_2_6_1,HA_2_6_2,HA_2_6_3, HA_2_6_4,HA_2_6_5,HA_2_6_6, HA_2_6_7,HA_2_6_8,HA_2_6_9, HA_2_6_10,HA_2_6_11,HA_2_6_12, HA_2_7_1,HA_2_7_2,HA_2_7_3, HA_2_7_4,HA_2_7_5,HA_2_7_6, HA_2_7_7,HA_2_7_8,HA_2_8_1, HA_2_8_2,HA_2_8_3,HA_2_8_4, HA_2_8_5,HA_2_8_6,HA_2_8_7, HA_2_8_8,HA_2_8_9,HA_2_8_10, HA_2_8_11,HA_2_8_12,HA_3_1_1, HA_3_1_2,HA_3_1_3,HA_3_1_4, HA_3_1_5,HA_3_1_6,HA_3_1_7, HA_3_1_8,HA_3_1_9,HA_3_1_10, HA_3_1_11,HA_3_1_12,HA_3_3_1, HA_3_3_2,HA_3_3_3,HA_3_3_4, HA_4_1_1,HA_4_1_2,HA_4_2_1, HA_4_2_2,HA_4_2_3,HA_4_2_4, HA_4_2_5,HA_4_2_6,HA_4_2_7, HA_4_2_8,HA_4_2_9,HA_4_2_10, HA_4_2_11,HA_4_2_12,HA_4_2_13, HA_4_2_14,HA_4_2_15,HA_4_2_16, HA_4_3_1,HA_4_3_2,HA_4_3_3, HA_4_3_4,HA_4_3_5,HA_4_3_6, HA_4_3_7,HA_4_3_8,HA_4_3_9, HA_4_3_10,HA_4_3_11,HA_4_3_12, HA_4_3_13,HA_4_3_14,HA_4_3_15, HA_4_3_16,HA_4_4_1,HA_4_4_2, HA_4_4_3,HA_4_4_4,HA_4_4_5, HA_4_4_6,HA_4_4_7,HA_4_4_8, HA_4_4_9,HA_4_4_13,HA_4_4_14, HA_4_4_15,HA_5_1_1,HA_5_1_2, HA_5_1_3,HA_5_1_4,HA_5_1_5, HA_5_1_6,HA_5_1_7,HA_6_1_1, HA_6_1_2,HA_6_1_3,HA_6_1_4, HA_6_2_1,HA_6_2_2,HA_6_3_1, HA_6_3_2,HA_6_3_3,HA_6_3_4, HA_6_3_5,HA_6_3_6,HA_6_3_7, HA_6_3_8,HA_6_3_9,HA_6_3_10, HA_8_1_1,HA_8_1_2	

Functional classification and test priority for HA

No.	I-D Section	I-D Section title	Item	Functional Specification	I-D Status	Functional Rank	Test Priority	Functional Category	Ver2.0		Reason of a rank
									Supported	Test No.	
4					MUST	A	A1	1	X	HA_1_1_5,HA_1_1_6,HA_1_1_7, HA_2_1_1,HA_2_1_2,HA_2_1_3, HA_2_1_4,HA_2_1_5,HA_2_1_6, HA_2_1_7,HA_2_1_8,HA_2_3_1, HA_2_3_2,HA_2_5_1,HA_2_5_2, HA_2_5_3,HA_2_5_4,HA_2_5_5, HA_2_5_6,HA_2_5_7,HA_2_5_8, HA_2_6_1,HA_2_6_2,HA_2_6_3, HA_2_6_4,HA_2_6_5,HA_2_6_6, HA_2_6_7,HA_2_6_8,HA_2_6_9, HA_2_6_10,HA_2_6_11,HA_2_6_12, HA_2_7_1,HA_2_7_2,HA_2_7_3, HA_2_7_4,HA_2_7_5,HA_2_7_6, HA_2_7_7,HA_2_7_8,HA_2_8_1, HA_2_8_2,HA_2_8_3,HA_2_8_4, HA_2_8_5,HA_2_8_6,HA_2_8_7, HA_2_8_8,HA_2_8_9,HA_2_8_10, HA_2_8_11,HA_2_8_12,HA_3_1_1, HA_3_1_2,HA_3_1_3,HA_3_1_4, HA_3_1_5,HA_3_1_6,HA_3_1_7, HA_3_1_8,HA_3_1_9,HA_3_1_10, HA_3_1_11,HA_3_1_12,HA_3_3_1, HA_3_3_2,HA_3_3_3,HA_3_3_4, HA_4_1_1,HA_4_1_2,HA_4_2_1, HA_4_2_2,HA_4_2_3,HA_4_2_4, HA_4_2_5,HA_4_2_6,HA_4_2_7, HA_4_2_8,HA_4_2_9,HA_4_2_10, HA_4_2_11,HA_4_2_12,HA_4_2_13, HA_4_2_14,HA_4_2_15,HA_4_2_16, HA_4_3_1,HA_4_3_2,HA_4_3_3, HA_4_3_4,HA_4_3_5,HA_4_3_6, HA_4_3_7,HA_4_3_8,HA_4_3_9, HA_4_3_10,HA_4_3_11,HA_4_3_12, HA_4_3_13,HA_4_3_14,HA_4_3_15, HA_4_3_16,HA_4_4_1,HA_4_4_2, HA_4_4_3,HA_4_4_4,HA_4_4_5, HA_4_4_6,HA_4_4_7,HA_4_4_8, HA_4_4_9,HA_4_4_13,HA_4_4_14, HA_4_4_15,HA_5_1_1,HA_5_1_2, HA_5_1_3,HA_5_1_4,HA_5_1_5, HA_5_1_6,HA_5_1_7,HA_6_1_1, HA_6_1_2,HA_6_1_3,HA_6_1_4, HA_6_2_1,HA_6_2_2,HA_6_3_1, HA_6_3_2,HA_6_3_3,HA_6_3_4, HA_6_3_5,HA_6_3_6,HA_6_3_7, HA_6_3_8,HA_6_3_9,HA_6_3_10, HA_8_1_1,HA_8_1_2	

Functional classification and test priority for HA

No.	I-D Section	I-D Section title	Item	Functional Specification	I-D Status	Functional Rank	Test Priority	Functional Category	Ver2.0		Reason of a rank
									Supported	Test No.	
5				ESP encapsulation of the Home Test Init and Home Test messages tunneled between the mobile node and home agent MUST be supported and SHOULD be used.	MUST	A	A2	1	X	HA_6_3_1 HA_6_3_2 HA_6_3_3 HA_6_3_4 HA_6_3_5 HA_6_3_6 HA_6_3_7 HA_6_3_8	Return Routability
6					SHOULD	A	A2	1	X	HA_6_3_1 HA_6_3_2 HA_6_3_3 HA_6_3_4 HA_6_3_5 HA_6_3_6 HA_6_3_7 HA_6_3_8	Return Routability
7				ESP encapsulation of the ICMPv6 messages related to prefix discovery MUST be supported and SHOULD be used.	MUST	A	A2	1	X	HA_8_1_1 HA_8_1_2	ICMP Mobile Prefix Solicitation/ ICMP Mobile Prefix Advertisement
8					SHOULD	A	A2	1	X	HA_8_1_1 HA_8_1_2	ICMP Mobile Prefix Solicitation/ ICMP Mobile Prefix Advertisement
9				ESP encapsulation of the payload packets tunneled between the mobile node and home agent MAY be supported and used.	MAY	B	B	1			IPsec Protection of the payload packets tunneled between MN and HA

Functional classification and test priority for HA

No.	I-D Section	I-D Section title	Item	Functional Specification	I-D Status	Functional Rank	Test Priority	Functional Category	Ver2.0		Reason of a rank
									Supported	Test No.	
10				If multicast group membership control protocols or stateful address autoconfiguration protocols are supported, payload data protection MUST be supported for those protocols.	MUST	A	A2	1			
11	4.2	Policy Requirements	The following requirements apply to both home agents and mobile nodes:	As required in the base specification [8], when a packet destined to the receiving node is matched against IPsec security policy or selectors of a security association, an address appearing in a Home Address destination option is considered as the source address of the packet.	(do)	A	A1/A2	1	X	HA_1_1_5,HA_1_1_6,HA_1_1_7, HA_2_1_1,HA_2_1_2,HA_2_1_3, HA_2_1_4,HA_2_1_5,HA_2_1_6, HA_2_1_7,HA_2_1_8,HA_2_3_1, HA_2_3_2,HA_2_5_1,HA_2_5_2, HA_2_5_3,HA_2_5_4,HA_2_5_5, HA_2_5_6,HA_2_5_7,HA_2_5_8, HA_2_6_1,HA_2_6_2,HA_2_6_3, HA_2_6_4,HA_2_6_5,HA_2_6_6, HA_2_6_7,HA_2_6_8,HA_2_6_9, HA_2_6_10,HA_2_6_11,HA_2_6_12, HA_2_7_1,HA_2_7_2,HA_2_7_3, HA_2_7_4,HA_2_7_5,HA_2_7_6, HA_2_7_7,HA_2_7_8,HA_2_8_1, HA_2_8_2,HA_2_8_3,HA_2_8_4, HA_2_8_5,HA_2_8_6,HA_2_8_7, HA_2_8_8,HA_2_8_9,HA_2_8_10, HA_2_8_11,HA_2_8_12,HA_3_1_1, HA_3_1_2,HA_3_1_3,HA_3_1_4, HA_3_1_5,HA_3_1_6,HA_3_1_7, HA_3_1_8,HA_3_1_9,HA_3_1_10, HA_3_1_11,HA_3_1_12,HA_3_3_1, HA_3_3_2,HA_3_3_3,HA_3_3_4, HA_4_1_1,HA_4_1_2,HA_4_2_1, HA_4_2_2,HA_4_2_3,HA_4_2_4, HA_4_2_5,HA_4_2_6,HA_4_2_7, HA_4_2_8,HA_4_2_9,HA_4_2_10, HA_4_2_11,HA_4_2_12,HA_4_2_13, HA_4_2_14,HA_4_2_15,HA_4_2_16, HA_4_3_1,HA_4_3_2,HA_4_3_3, HA_4_3_4,HA_4_3_5,HA_4_3_6, HA_4_3_7,HA_4_3_8,HA_4_3_9, HA_4_3_10,HA_4_3_11,HA_4_3_12, HA_4_3_13,HA_4_3_14,HA_4_3_15, HA_4_3_16,HA_4_4_1,HA_4_4_2, HA_4_4_3,HA_4_4_4,HA_4_4_5, HA_4_4_6,HA_4_4_7,HA_4_4_8, HA_4_4_9,HA_4_4_13,HA_4_4_14, HA_4_4_15,HA_5_1_1,HA_5_1_2, HA_5_1_3,HA_5_1_4,HA_5_1_5, HA_5_1_6,HA_5_1_7,HA_6_1_1, HA_6_1_2,HA_6_1_3,HA_6_1_4, HA_6_2_1,HA_6_2_2,HA_6_3_1, HA_6_3_2,HA_6_3_3,HA_6_3_4, HA_6_3_5,HA_6_3_6,HA_6_3_7, HA_6_3_8,HA_6_3_9,HA_6_3_10, HA_8_1_1,HA_8_1_2	BU : A1 MPS : A2

Functional classification and test priority for HA

No.	I-D Section	I-D Section title	Item	Functional Specification	I-D Status	Functional Rank	Test Priority	Functional Category	Ver2.0		Reason of a rank
									Supported	Test No.	
12				Similarly, a home address within a Type 2 Routing header destined to the receiving node is considered as the destination address of the packet, when a packet is matched against IPsec security policy or selectors of a security association.	(do)	A	A1/A2	1	X	HA_1_1_5,HA_1_1_6,HA_1_1_7,HA_2_1_1,HA_2_1_2,HA_2_1_3,HA_2_1_4,HA_2_1_5,HA_2_1_6,HA_2_1_7,HA_2_1_8,HA_2_3_1,HA_2_3_2,HA_2_5_1,HA_2_5_2,HA_2_5_3,HA_2_5_4,HA_2_5_5,HA_2_5_6,HA_2_5_7,HA_2_5_8,HA_2_6_1,HA_2_6_2,HA_2_6_3,HA_2_6_4,HA_2_6_5,HA_2_6_6,HA_2_6_7,HA_2_6_8,HA_2_6_9,HA_2_6_10,HA_2_6_11,HA_2_6_12,HA_2_7_1,HA_2_7_2,HA_2_7_3,HA_2_7_4,HA_2_7_5,HA_2_7_6,HA_2_7_7,HA_2_7_8,HA_2_8_1,HA_2_8_2,HA_2_8_3,HA_2_8_4,HA_2_8_5,HA_2_8_6,HA_2_8_7,HA_2_8_8,HA_2_8_9,HA_2_8_10,HA_2_8_11,HA_2_8_12,HA_3_1_1,HA_3_1_2,HA_3_1_3,HA_3_1_4,HA_3_1_5,HA_3_1_6,HA_3_1_7,HA_3_1_8,HA_3_1_9,HA_3_1_10,HA_3_1_11,HA_3_1_12,HA_3_3_1,HA_3_3_2,HA_3_3_3,HA_3_3_4,HA_4_1_1,HA_4_1_2,HA_4_2_1,HA_4_2_2,HA_4_2_3,HA_4_2_4,HA_4_2_5,HA_4_2_6,HA_4_2_7,HA_4_2_8,HA_4_2_9,HA_4_2_10,HA_4_2_11,HA_4_2_12,HA_4_2_13,HA_4_2_14,HA_4_2_15,HA_4_2_16,HA_4_3_1,HA_4_3_2,HA_4_3_3,HA_4_3_4,HA_4_3_4,HA_4_3_5,HA_4_3_6,HA_4_3_7,HA_4_3_8,HA_4_3_9,HA_4_3_10,HA_4_3_11,HA_4_3_12,HA_4_3_13,HA_4_3_14,HA_4_3_15,HA_4_3_16,HA_4_4_1,HA_4_4_2,HA_4_4_3,HA_4_4_4,HA_4_4_5,HA_4_4_6,HA_4_4_7,HA_4_4_8,HA_4_4_9,HA_4_4_13,HA_4_4_14,HA_4_4_15,HA_5_1_1,HA_5_1_2,HA_5_1_3,HA_5_1_4,HA_5_1_5,HA_5_1_6,HA_5_1_7,HA_6_1_1,HA_6_1_2,HA_6_1_3,HA_6_1_4,HA_6_2_1,HA_6_2_2,HA_6_3_1,HA_6_3_2,HA_6_3_3,HA_6_3_4,HA_6_3_5,HA_6_3_6,HA_6_3_7,HA_6_3_8,HA_6_3_9,HA_6_3_10,HA_8_1_1,HA_8_1_2	BA : A1 MPA : A2

Functional classification and test priority for HA

No.	I-D Section	I-D Section title	Item	Functional Specification	I-D Status	Functional Rank	Test Priority	Functional Category	Ver2.0		Reason of a rank
									Supported	Test No.	
13				Similar implementation considers apply to the Routing header processing as was described above for the Home Address destination option.	(do)	A	A1/A2	1	X	HA_1_1_5,HA_1_1_6,HA_1_1_7,HA_2_1_1,HA_2_1_2,HA_2_1_3,HA_2_1_4,HA_2_1_5,HA_2_1_6,HA_2_1_7,HA_2_1_8,HA_2_3_1,HA_2_3_2,HA_2_5_1,HA_2_5_2,HA_2_5_3,HA_2_5_4,HA_2_5_5,HA_2_5_6,HA_2_5_7,HA_2_5_8,HA_2_6_1,HA_2_6_2,HA_2_6_3,HA_2_6_4,HA_2_6_5,HA_2_6_6,HA_2_6_7,HA_2_6_8,HA_2_6_9,HA_2_6_10,HA_2_6_11,HA_2_6_12,HA_2_7_1,HA_2_7_2,HA_2_7_3,HA_2_7_4,HA_2_7_5,HA_2_7_6,HA_2_7_7,HA_2_7_8,HA_2_8_1,HA_2_8_2,HA_2_8_3,HA_2_8_4,HA_2_8_5,HA_2_8_6,HA_2_8_7,HA_2_8_8,HA_2_8_9,HA_2_8_10,HA_2_8_11,HA_2_8_12,HA_3_1_1,HA_3_1_2,HA_3_1_3,HA_3_1_4,HA_3_1_5,HA_3_1_6,HA_3_1_7,HA_3_1_8,HA_3_1_9,HA_3_1_10,HA_3_1_11,HA_3_1_12,HA_3_3_1,HA_3_3_2,HA_3_3_3,HA_3_3_4,HA_4_1_1,HA_4_1_2,HA_4_2_1,HA_4_2_2,HA_4_2_3,HA_4_2_4,HA_4_2_5,HA_4_2_6,HA_4_2_7,HA_4_2_8,HA_4_2_9,HA_4_2_10,HA_4_2_11,HA_4_2_12,HA_4_2_13,HA_4_2_14,HA_4_2_15,HA_4_2_16,HA_4_3_1,HA_4_3_2,HA_4_3_3,HA_4_3_4,HA_4_3_5,HA_4_3_6,HA_4_3_7,HA_4_3_8,HA_4_3_9,HA_4_3_10,HA_4_3_11,HA_4_3_12,HA_4_3_13,HA_4_3_14,HA_4_3_15,HA_4_3_16,HA_4_4_1,HA_4_4_2,HA_4_4_3,HA_4_4_4,HA_4_4_5,HA_4_4_6,HA_4_4_7,HA_4_4_8,HA_4_4_9,HA_4_4_13,HA_4_4_14,HA_4_4_15,HA_5_1_1,HA_5_1_2,HA_5_1_3,HA_5_1_4,HA_5_1_5,HA_5_1_6,HA_5_1_7,HA_6_1_1,HA_6_1_2,HA_6_1_3,HA_6_1_4,HA_6_2_1,HA_6_2_2,HA_6_3_1,HA_6_3_2,HA_6_3_3,HA_6_3_4,HA_6_3_5,HA_6_3_6,HA_6_3_7,HA_6_3_8,HA_6_3_9,HA_6_3_10,HA_8_1_1,HA_8_1_2	BA : A1 MPA : A2

Functional classification and test priority for HA

No.	I-D Section	I-D Section title	Item	Functional Specification	I-D Status	Functional Rank	Test Priority	Functional Category	Ver2.0		Reason of a rank
									Supported	Test No.	
14				When IPsec is used to protect return routability signaling or payload packets, this protection MUST only be applied to the return routability packets entering the IPv6 encapsulated tunnel interface between the mobile node and the home agent. This can be achieved, for instance, by defining the security policy database entries specifically for the tunnel interface. That is, the policy entries are not generally applied on all traffic on the physical interface(s) of the nodes, but rather only on traffic that enters this tunnel.	MUST	A	A2	1	X	HA_6_3_1 HA_6_3_2 HA_6_3_3 HA_6_3_4 HA_6_3_5 HA_6_3_6 HA_6_3_7 HA_6_3_8	Return Routability IPsec Protection of the payload packets tunneled between MN and HA
15				The authentication of mobile nodes MAY be based either on machine or user credentials. Note that multi-user operating systems typically allow all users of a node to use any of the IP addresses assigned to the node. This limits the capability of the home agent to restrict the use of a home address to a particular user in such environment. Where user credentials are applied in a multi-user environment, the configuration should authorize all users of the node to control all home addresses assigned to the node.	MAY	B	B	1			

Functional classification and test priority for HA

No.	I-D Section	I-D Section title	Item	Functional Specification	I-D Status	Functional Rank	Test Priority	Functional Category	Ver2.0		Reason of a rank
									Supported	Test No.	
16				When the mobile node returns home and de-registers with the Home Agent, the tunnel between the home agent and the mobile node's care-of address is torn down. The security policy entries, which were used for protecting tunneled traffic between the mobile node and the home agent MUST be made inactive (for instance, by removing them and installing them back later through an API). The corresponding security associations could be kept as they are or deleted depending on how they were created.	MUST	A	A1	1			This function is implementaion-dependent. It does not effect on interoperability.
17				If the security associations were created dynamically using IKE, they are automatically deleted when they expire. If the security associations were created through manual configuration, they MUST be retained and used later when the mobile node moves away from home again. The security associations protecting Binding Updates and Acknowledgements, and prefix discovery SHOULD NOT be deleted as they do not depend on care-of addresses and can be used again.	MUST	A	A1	1			This function is implementaion-dependent. It does not effect on interoperability.
18					SHOULD NOT	A	A1/A2	1			BU/BA : A1 MPS/MPA : A2 This function is implementaion-dependent. It does not effect on interoperability.

Functional classification and test priority for HA

No.	I-D Section	I-D Section title	Item	Functional Specification	I-D Status	Functional Rank	Test Priority	Functional Category	Ver2.0		Reason of a rank
									Supported	Test No.	
19			The following rules apply to home agents:	The home agent MUST use the Type 2 Routing header in Binding Acknowledgements and Mobile Prefix Advertisements sent to the mobile node, again due to the need to have the home address visible when the policy checks are made.	MUST	A	A1/A2	1	X	HA_1_1_5,HA_1_1_6,HA_1_1_7,HA_2_1_1,HA_2_1_2,HA_2_1_3,HA_2_1_4,HA_2_1_5,HA_2_1_6,HA_2_1_7,HA_2_1_8,HA_2_3_1,HA_2_3_2,HA_2_5_1,HA_2_5_2,HA_2_5_3,HA_2_5_4,HA_2_5_5,HA_2_5_6,HA_2_5_7,HA_2_5_8,HA_2_6_1,HA_2_6_2,HA_2_6_3,HA_2_6_4,HA_2_6_5,HA_2_6_6,HA_2_6_7,HA_2_6_8,HA_2_6_9,HA_2_6_10,HA_2_6_11,HA_2_6_12,HA_2_7_1,HA_2_7_2,HA_2_7_3,HA_2_7_4,HA_2_7_5,HA_2_7_6,HA_2_7_7,HA_2_7_8,HA_2_8_1,HA_2_8_2,HA_2_8_3,HA_2_8_4,HA_2_8_5,HA_2_8_6,HA_2_8_7,HA_2_8_8,HA_2_8_9,HA_2_8_10,HA_2_8_11,HA_2_8_12,HA_3_1_1,HA_3_1_2,HA_3_1_3,HA_3_1_4,HA_3_1_5,HA_3_1_6,HA_3_1_7,HA_3_1_8,HA_3_1_9,HA_3_1_10,HA_3_1_11,HA_3_1_12,HA_3_3_1,HA_3_3_2,HA_3_3_3,HA_3_3_4,HA_4_1_1,HA_4_1_2,HA_4_2_1,HA_4_2_2,HA_4_2_3,HA_4_2_4,HA_4_2_5,HA_4_2_6,HA_4_2_7,HA_4_2_8,HA_4_2_9,HA_4_2_10,HA_4_2_11,HA_4_2_12,HA_4_2_13,HA_4_2_14,HA_4_2_15,HA_4_2_16,HA_4_3_1,HA_4_3_2,HA_4_3_3,HA_4_3_4,HA_4_3_5,HA_4_3_6,HA_4_3_7,HA_4_3_8,HA_4_3_9,HA_4_3_10,HA_4_3_11,HA_4_3_12,HA_4_3_13,HA_4_3_14,HA_4_3_15,HA_4_3_16,HA_4_4_1,HA_4_4_2,HA_4_4_3,HA_4_4_4,HA_4_4_5,HA_4_4_6,HA_4_4_7,HA_4_4_8,HA_4_4_9,HA_4_4_13,HA_4_4_14,HA_4_4_15,HA_5_1_1,HA_5_1_2,HA_5_1_3,HA_5_1_4,HA_5_1_5,HA_5_1_6,HA_5_1_7,HA_6_1_1,HA_6_1_2,HA_6_1_3,HA_6_1_4,HA_6_2_1,HA_6_2_2,HA_6_3_1,HA_6_3_2,HA_6_3_3,HA_6_3_4,HA_6_3_5,HA_6_3_6,HA_6_3_7,HA_6_3_8,HA_6_3_9,HA_6_3_10,HA_8_1_1,HA_8_1_2	BA : A1 MPA : A2

Functional classification and test priority for HA

No.	I-D Section	I-D Section title	Item	Functional Specification	I-D Status	Functional Rank	Test Priority	Functional Category	Ver2.0		Reason of a rank	
									Supported	Test No.		
20				It is necessary to avoid the possibility that a mobile node could use its security association to send a Binding Update on behalf of another mobile node using the same home agent. In order to do this, the security policy database entries MUST unequivocally identify a single security association for any given home address and home agent when manual keying is used. When dynamic keying is used, the security policy database entries MUST unequivocally identify the IKE phase 1 credentials which can be used to authorize the creation of security associations for a particular home address. How these mappings are maintained is outside the scope of this specification, but they may be maintained, for instance, as a locally administered table in the home agent. If the phase 1 identity is a FQDN, secure forms of DNS may also be used.	MUST	A	A1	1	X	HA_1_1_5,HA_1_1_6,HA_1_1_7,HA_2_1_1,HA_2_1_2,HA_2_1_3,HA_2_1_4,HA_2_1_5,HA_2_1_6,HA_2_1_7,HA_2_1_8,HA_2_3_1,HA_2_3_2,HA_2_5_1,HA_2_5_2,HA_2_5_3,HA_2_5_4,HA_2_5_5,HA_2_5_6,HA_2_5_7,HA_2_5_8,HA_2_6_1,HA_2_6_2,HA_2_6_3,HA_2_6_4,HA_2_6_5,HA_2_6_6,HA_2_6_7,HA_2_6_8,HA_2_6_9,HA_2_6_10,HA_2_6_11,HA_2_6_12,HA_2_7_1,HA_2_7_2,HA_2_7_3,HA_2_7_4,HA_2_7_5,HA_2_7_6,HA_2_7_7,HA_2_7_8,HA_2_8_1,HA_2_8_2,HA_2_8_3,HA_2_8_4,HA_2_8_5,HA_2_8_6,HA_2_8_7,HA_2_8_8,HA_2_8_9,HA_2_8_10,HA_2_8_11,HA_2_8_12,HA_3_1_1,HA_3_1_2,HA_3_1_3,HA_3_1_4,HA_3_1_5,HA_3_1_6,HA_3_1_7,HA_3_1_8,HA_3_1_9,HA_3_1_10,HA_3_1_11,HA_3_1_12,HA_3_3_1,HA_3_3_2,HA_3_3_3,HA_3_3_4,HA_4_1_1,HA_4_1_2,HA_4_2_1,HA_4_2_2,HA_4_2_3,HA_4_2_4,HA_4_2_5,HA_4_2_6,HA_4_2_7,HA_4_2_8,HA_4_2_9,HA_4_2_10,HA_4_2_11,HA_4_2_12,HA_4_2_13,HA_4_2_14,HA_4_2_15,HA_4_2_16,HA_4_3_1,HA_4_3_2,HA_4_3_3,HA_4_3_4,HA_4_3_5,HA_4_3_6,HA_4_3_7,HA_4_3_8,HA_4_3_9,HA_4_3_10,HA_4_3_11,HA_4_3_12,HA_4_3_13,HA_4_3_14,HA_4_3_15,HA_4_3_16,HA_4_4_1,HA_4_4_2,HA_4_4_3,HA_4_4_4,HA_4_4_5,HA_4_4_6,HA_4_4_7,HA_4_4_8,HA_4_4_9,HA_4_4_13,HA_4_4_14,HA_4_4_15,HA_5_1_1,HA_5_1_2,HA_5_1_3,HA_5_1_4,HA_5_1_5,HA_5_1_6,HA_5_1_7,HA_6_1_1,HA_6_1_2,HA_6_1_3,HA_6_1_4,HA_6_2_1,HA_6_2_2,HA_6_3_1,HA_6_3_2,HA_6_3_3,HA_6_3_4,HA_6_3_5,HA_6_3_6,HA_6_3_7,HA_6_3_8,HA_6_3_9,HA_6_3_10,HA_8_1_1,HA_8_1_2		
21					MUST	A	A2	1			IKE	

Functional classification and test priority for HA

No.	I-D Section	I-D Section title	Item	Functional Specification	I-D Status	Functional Rank	Test Priority	Functional Category	Ver2.0		Reason of a rank
									Supported	Test No.	
22	4.3	IPsec Protocol Processing	The following requirements apply to both home agents and mobile nodes:	When securing Binding Updates, Binding Acknowledgements, and prefix discovery, both the mobile nodes and the home agents MUST support and SHOULD use the Encapsulating Security Payload (ESP) [4] header in transport mode and MUST use a non-null payload authentication algorithm to provide data origin authentication, connectionless integrity and optional anti-replay protection.	MUST	A	A1/A2	1	X	HA_1_1,HA_1_1_6,HA_1_1_7,HA_2_1_1,HA_2_1_2,HA_2_1_3,HA_2_1_4,HA_2_1_5,HA_2_1_6,HA_2_1_7,HA_2_1_8,HA_2_3_1,HA_2_3_2,HA_2_5_1,HA_2_5_2,HA_2_5_3,HA_2_5_4,HA_2_5_5,HA_2_5_6,HA_2_5_7,HA_2_5_8,HA_2_6_1,HA_2_6_2,HA_2_6_3,HA_2_6_4,HA_2_6_5,HA_2_6_6,HA_2_6_7,HA_2_6_8,HA_2_6_9,HA_2_6_10,HA_2_6_11,HA_2_6_12,HA_2_7_1,HA_2_7_2,HA_2_7_3,HA_2_7_4,HA_2_7_5,HA_2_7_6,HA_2_7_7,HA_2_7_8,HA_2_8_1,HA_2_8_2,HA_2_8_3,HA_2_8_4,HA_2_8_5,HA_2_8_6,HA_2_8_7,HA_2_8_8,HA_2_8_9,HA_2_8_10,HA_2_8_11,HA_2_8_12,HA_3_1_1,HA_3_1_2,HA_3_1_3,HA_3_1_4,HA_3_1_5,HA_3_1_6,HA_3_1_7,HA_3_1_8,HA_3_1_9,HA_3_1_10,HA_3_1_11,HA_3_1_12,HA_3_3_1,HA_3_3_2,HA_3_3_3,HA_3_3_4,HA_4_1_1,HA_4_1_2,HA_4_2_1,HA_4_2_2,HA_4_2_3,HA_4_2_4,HA_4_2_5,HA_4_2_6,HA_4_2_7,HA_4_2_8,HA_4_2_9,HA_4_2_10,HA_4_2_11,HA_4_2_12,HA_4_2_13,HA_4_2_14,HA_4_2_15,HA_4_2_16,HA_4_3_1,HA_4_3_2,HA_4_3_3,HA_4_3_4,HA_4_3_4,HA_4_3_5,HA_4_3_6,HA_4_3_7,HA_4_3_8,HA_4_3_9,HA_4_3_10,HA_4_3_11,HA_4_3_12,HA_4_3_13,HA_4_3_14,HA_4_3_15,HA_4_3_16,HA_4_4_1,HA_4_4_2,HA_4_4_3,HA_4_4_4,HA_4_4_5,HA_4_4_6,HA_4_4_7,HA_4_4_8,HA_4_4_9,HA_4_4_13,HA_4_4_14,HA_4_4_15,HA_5_1_1,HA_5_1_2,HA_5_1_3,HA_5_1_4,HA_5_1_5,HA_5_1_6,HA_5_1_7,HA_6_1_1,HA_6_1_2,HA_6_1_3,HA_6_1_4,HA_6_2_1,HA_6_2_2,HA_6_3_1,HA_6_3_2,HA_6_3_3,HA_6_3_4,HA_6_3_5,HA_6_3_6,HA_6_3_7,HA_6_3_8,HA_6_3_9,HA_6_3_10,HA_8_1_1,HA_8_1_2	BU/BA : A1 MPS/MPA : A2

Functional classification and test priority for HA

No.	I-D Section	I-D Section title	Item	Functional Specification	I-D Status	Functional Rank	Test Priority	Functional Category	Ver2.0		Reason of a rank
									Supported	Test No.	
23					SHOULD	A	A1/A2	1	X	HA_1_1_5,HA_1_1_6,HA_1_1_7, HA_2_1_1,HA_2_1_2,HA_2_1_3, HA_2_1_4,HA_2_1_5,HA_2_1_6, HA_2_1_7,HA_2_1_8,HA_2_3_1, HA_2_3_2,HA_2_5_1,HA_2_5_2, HA_2_5_3,HA_2_5_4,HA_2_5_5, HA_2_5_6,HA_2_5_7,HA_2_5_8, HA_2_6_1,HA_2_6_2,HA_2_6_3, HA_2_6_4,HA_2_6_5,HA_2_6_6, HA_2_6_7,HA_2_6_8,HA_2_6_9, HA_2_6_10,HA_2_6_11,HA_2_6_12, HA_2_7_1,HA_2_7_2,HA_2_7_3, HA_2_7_4,HA_2_7_5,HA_2_7_6, HA_2_7_7,HA_2_7_8,HA_2_8_1, HA_2_8_2,HA_2_8_3,HA_2_8_4, HA_2_8_5,HA_2_8_6,HA_2_8_7, HA_2_8_8,HA_2_8_9,HA_2_8_10, HA_2_8_11,HA_2_8_12,HA_3_1_1, HA_3_1_2,HA_3_1_3,HA_3_1_4, HA_3_1_5,HA_3_1_6,HA_3_1_7, HA_3_1_8,HA_3_1_9,HA_3_1_10, HA_3_1_11,HA_3_1_12,HA_3_3_1, HA_3_3_2,HA_3_3_3,HA_3_3_4, HA_4_1_1,HA_4_1_2,HA_4_2_1, HA_4_2_2,HA_4_2_3,HA_4_2_4, HA_4_2_5,HA_4_2_6,HA_4_2_7, HA_4_2_8,HA_4_2_9,HA_4_2_10, HA_4_2_11,HA_4_2_12,HA_4_2_13, HA_4_2_14,HA_4_2_15,HA_4_2_16, HA_4_3_1,HA_4_3_2,HA_4_3_3, HA_4_3_4,HA_4_3_5,HA_4_3_6, HA_4_3_7,HA_4_3_8,HA_4_3_9, HA_4_3_10,HA_4_3_11,HA_4_3_12, HA_4_3_13,HA_4_3_14,HA_4_3_15, HA_4_3_16,HA_4_4_1,HA_4_4_2, HA_4_4_3,HA_4_4_4,HA_4_4_5, HA_4_4_6,HA_4_4_7,HA_4_4_8, HA_4_4_9,HA_4_4_13,HA_4_4_14, HA_4_4_15,HA_5_1_1,HA_5_1_2, HA_5_1_3,HA_5_1_4,HA_5_1_5, HA_5_1_6,HA_5_1_7,HA_6_1_1, HA_6_1_2,HA_6_1_3,HA_6_1_4, HA_6_2_1,HA_6_2_2,HA_6_3_1, HA_6_3_2,HA_6_3_3,HA_6_3_4, HA_6_3_5,HA_6_3_6,HA_6_3_7, HA_6_3_8,HA_6_3_9,HA_6_3_10, HA_8_1_1,HA_8_1_2	BU/BA : A1 MPS/MPA : A2

Functional classification and test priority for HA

No.	I-D Section	I-D Section title	Item	Functional Specification	I-D Status	Functional Rank	Test Priority	Functional Category	Ver2.0		Reason of a rank
									Supported	Test No.	
24					MUST	A	A1/A2	1	X	HA_1_1_5,HA_1_1_6,HA_1_1_7, HA_2_1_1,HA_2_1_2,HA_2_1_3, HA_2_1_4,HA_2_1_5,HA_2_1_6, HA_2_1_7,HA_2_1_8,HA_2_3_1, HA_2_3_2,HA_2_5_1,HA_2_5_2, HA_2_5_3,HA_2_5_4,HA_2_5_5, HA_2_5_6,HA_2_5_7,HA_2_5_8, HA_2_6_1,HA_2_6_2,HA_2_6_3, HA_2_6_4,HA_2_6_5,HA_2_6_6, HA_2_6_7,HA_2_6_8,HA_2_6_9, HA_2_6_10,HA_2_6_11,HA_2_6_12, HA_2_7_1,HA_2_7_2,HA_2_7_3, HA_2_7_4,HA_2_7_5,HA_2_7_6, HA_2_7_7,HA_2_7_8,HA_2_8_1, HA_2_8_2,HA_2_8_3,HA_2_8_4, HA_2_8_5,HA_2_8_6,HA_2_8_7, HA_2_8_8,HA_2_8_9,HA_2_8_10, HA_2_8_11,HA_2_8_12,HA_3_1_1, HA_3_1_2,HA_3_1_3,HA_3_1_4, HA_3_1_5,HA_3_1_6,HA_3_1_7, HA_3_1_8,HA_3_1_9,HA_3_1_10, HA_3_1_11,HA_3_1_12,HA_3_3_1, HA_3_3_2,HA_3_3_3,HA_3_3_4, HA_4_1_1,HA_4_1_2,HA_4_2_1, HA_4_2_2,HA_4_2_3,HA_4_2_4, HA_4_2_5,HA_4_2_6,HA_4_2_7, HA_4_2_8,HA_4_2_9,HA_4_2_10, HA_4_2_11,HA_4_2_12,HA_4_2_13, HA_4_2_14,HA_4_2_15,HA_4_2_16, HA_4_3_1,HA_4_3_2,HA_4_3_3, HA_4_3_4,HA_4_3_5,HA_4_3_6, HA_4_3_7,HA_4_3_8,HA_4_3_9, HA_4_3_10,HA_4_3_11,HA_4_3_12, HA_4_3_13,HA_4_3_14,HA_4_3_15, HA_4_3_16,HA_4_4_1,HA_4_4_2, HA_4_4_3,HA_4_4_4,HA_4_4_5, HA_4_4_6,HA_4_4_7,HA_4_4_8, HA_4_4_9,HA_4_4_13,HA_4_4_14, HA_4_4_15,HA_5_1_1,HA_5_1_2, HA_5_1_3,HA_5_1_4,HA_5_1_5, HA_5_1_6,HA_5_1_7,HA_6_1_1, HA_6_1_2,HA_6_1_3,HA_6_1_4, HA_6_2_1,HA_6_2_2,HA_6_3_1, HA_6_3_2,HA_6_3_3,HA_6_3_4, HA_6_3_5,HA_6_3_6,HA_6_3_7, HA_6_3_8,HA_6_3_9,HA_6_3_10, HA_8_1_1,HA_8_1_2	BU/BA : A1 MPS/MPA : A2

Functional classification and test priority for HA

No.	I-D Section	I-D Section title	Item	Functional Specification	I-D Status	Functional Rank	Test Priority	Functional Category	Ver2.0		Reason of a rank
									Supported	Test No.	
25				Tunnel mode IPsec ESP MUST be supported and SHOULD be used for the protection of packets belonging to the return routability procedure. A non-null encryption transform and a non-null authentication algorithm MUST be applied.	MUST	A	A2	1	X	HA_6_3_1 HA_6_3_2 HA_6_3_3 HA_6_3_4 HA_6_3_5 HA_6_3_6 HA_6_3_7 HA_6_3_8	HoTI,HoT
26					SHOULD	A	A2	1	X	HA_6_3_1 HA_6_3_2 HA_6_3_3 HA_6_3_4 HA_6_3_5 HA_6_3_6 HA_6_3_7 HA_6_3_8	HoTI,HoT
27					MUST	A	A2	1	X	HA_6_3_1 HA_6_3_2 HA_6_3_3 HA_6_3_4 HA_6_3_5 HA_6_3_6 HA_6_3_7 HA_6_3_8	HoTI,HoT

Functional classification and test priority for HA

No.	I-D Section	I-D Section title	Item	Functional Specification	I-D Status	Functional Rank	Test Priority	Functional Category	Ver2.0		Reason of a rank
									Supported	Test No.	
28			The following rules apply to home agents:	When IPsec is used to protect return routability signaling or payload packets, IPsec security associations are needed to provide this protection. When the care-of address for the mobile node changes as a result of an accepted Binding Update, special treatment is needed for the next packets sent using these security associations. The home agent MUST set the new care-of address as the destination address of these packets, as if the outer header destination address in the security association had changed. Similarly, the home agent starts to expect the new source address in the tunnel packets received from the mobile node.	MUST	A	A2/B	1	X	HA_6_3_1 HA_6_3_2 HA_6_3_3 HA_6_3_4 HA_6_3_5 HA_6_3_6 HA_6_3_7 HA_6_3_8	HoT : A2 payload packets : B
29				Such address changes can be implemented, for instance, through an API from the Mobile IPv6 implementation to the IPsec implementation. It should be noted that the use of such an API and the address changes MUST only be done based on the Binding Updates received by the home agent and protected by the use of IPsec. Address modifications based on other sources, such as Binding Updates to the correspondent nodes protected by return routability, or open access to an API from any application may result in security vulnerabilities.	MUST	A	A2	1			This function is implementaion-dependent. It does not effect on interoperability.

Functional classification and test priority for HA

No.	I-D Section	I-D Section title	Item	Functional Specification	I-D Status	Functional Rank	Test Priority	Functional Category	Ver2.0		Reason of a rank
									Supported	Test No.	
30	4.4	Dynamic Keying	The following requirements apply to both home agents and mobile nodes:	If anti-replay protection is required, dynamic keying MUST be used. IPsec can provide anti-replay protection only if dynamic keying is used (which may not always be the case). IPsec also does not guarantee correct ordering of packets, only that they have not been replayed. Because of this, sequence numbers within the Mobile IPv6 messages are used to ensure correct ordering. However, if the 16 bit Mobile IPv6 sequence number space is cycled through, or the home agent reboots and loses its state regarding the sequence numbers, replay and reordering attacks become possible. The use of dynamic keying, IPsec anti-replay protection, and the Mobile IPv6 sequence numbers can together prevent such attacks.	MUST	A	A2	1			IKE

Functional classification and test priority for HA

No.	I-D Section	I-D Section title	Item	Functional Specification	I-D Status	Functional Rank	Test Priority	Functional Category	Ver2.0		Reason of a rank
									Supported	Test No.	
31				If IKE version 1 is used with preshared secrets in main mode, it determines the shared secret to use from the IP address of the peer. With Mobile IPv6, however, this may be a care-of address and does not indicate which mobile node attempts to contact the home agent. Therefore, if preshared secret authentication is used in IKEv1 between the mobile node and the home agent then aggressive mode MUST be used. Note also that care needs to be taken with phase 1 identity selection. Where the ID_IPV6_ADDR Identity Payloads is used, unambiguous mapping of identities to keys is not possible. (The next version of IKE may not have these limitations.)	MUST	A	A2	1			IKE
32			The following rules apply to home agents:	If the home agent has used IKE version 1 to establish security associations with the mobile node, it should follow the procedures discussed in Section 10.3.1 and 10.3.2 of the base specification [8] to determine whether the IKE endpoints can be moved or if IKE phase 1 has to be re-established.	(do)	A	A2	1			IKE