IPv6 READY Logo Phase 2

IP Multimedia subsystem

The explanation of the submission

version 0.4.0

IPv6 Forum
Converged Test Specification
IPv6 Ready Logo Committee
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  SIP IPv6 Sub Working Group
  BII Group

  Commentators:

Table of Contents

1. Overview

This document describes about the necessary submission to obtain the IMS IPv6 Ready Logo Phase-2.

2. Reference Standards

The following documents are referenced in the test specifications.

[IMS]

(1) TS 24.229: IP multimedia call control protocol based on Session Initiation Protocol (SIP) and Session Description Protocol (SDP); Stage 3(Release 8), 3GPP TS 24.229 v8.10.0. (http://www.3gpp.org/ftp/Specs/html-info/24229.htm)

[SIP/SDP]

(2) RFC3261: SIP: Session Initiation Protocol (http://www.ietf.org/rfc/rfc3261.txt)

(3) RFC3265: Session Initiation Protocol (SIP)-Specific Event Notification (http://www.ietf.org/rfc/rfc3265.txt)

(4) RFC3327: Session Initiation Protocol (SIP) Extension Header Field for Registering Non-Adjacent Contacts (http://www.ietf.org/rfc/rfc3327.txt)

(5) RFC3455: Private Header (P-Header) Extensions to the Session Initiation Protocol (SIP) for the 3rd-Generation Partnership Project (3GPP) (http://www.ietf.org/rfc/rfc3455.txt)

(6) RFC3608: Session Initiation Protocol (SIP) Extension Header Field for Service Route Discovery During Registration (http://www.ietf.org/rfc/rfc3608.txt)

(7) RFC3680: A Session Initiation Protocol (SIP) Event Package for Registrations (http://www.ietf.org/rfc/rfc3680.txt)

(8) RFC4320: Actions addressing identified issues with the Session Initiation Protocol's non-INVITE Transaction (http://www.ietf.org/rfc/rfc4320.txt)

(9) RFC4566: SDP: Session Description Protocol (http://www.ietf.org/rfc/rfc4566.txt)

[SigComp]

(10) RFC3320: Signaling Compression (SigComp) (http://www.ietf.org/rfc/rfc3320.txt)

(11) RFC3485: The Session Initiation Protocol (SIP) and Session Description Protocol (SDP) Static Dictionary for Signaling Compression (SigComp) (http://www.ietf.org/rfc/rfc3485.txt)

(12) RFC3486: Compressing the Session Initiation Protocol (http://www.ietf.org/rfc/rfc3486.txt)

(13) RFC4896: Signaling Compression (SigComp) Corrections and Clarifications (http://www.ietf.org/rfc/rfc4896.txt)

(14) RFC5049: Applying Signaling Compression (SigComp) to the Session Initiation

Protocol (SIP) (http://www.ietf.org/rfc/rfc5049.txt)

[IMS AKA and Security Association]

(15) TS.33.203: 3G security; Access security for IP-based services (Release8), 3GPP TS 33.203 v8.8.0.
(http://www.3gpp.org/ftp/Specs/html-info/33203.htm)

(16) RFC3310: Hypertext Transfer Protocol (HTTP) Digest Authentication Using Authentication and Key Agreement (AKA)
(http://www.ietf.org/rfc/rfc3310.txt)

(17) RFC3329: Security Mechanism Agreement for the Session Initiation Protocol (SIP)
(http://www.ietf.org/rfc/rfc3329.txt)

[SIP Digest]

(18) RFC2617: HTTP Authentication: Basic and Digest Access Authentication
(http://www.ietf.org/rfc/rfc2617.txt)

[Call Flow Examples]

(19) TS24.228: Signalling flows for the IP multimedia call control based on Session Initiation Protocol (SIP) and Session Description Protocol (SDP); Stage 3, 3GPP TS 24.228 v5.15.0.
(http://www.3gpp.org/ftp/Specs/html-info/24228.htm)

(20) RFC3665: SIP Basic Call Flow Examples (http://www.ietf.org/rfc/rfc3665.txt)

3. About the submission

3.1 The list of the submission

It is necessary to submit the files shown in Table 3-1 to obtain the IMS IPv6 Ready Logo Phase-2. For more details how to obtain IPv6 Ready Logo, see *White Paper* (http://www.ipv6ready.org/?page=docs&loc=admin).

Table 3-1 The list of the submission

Category	Submission	Explanation
Application Form	Application Form	Application form of IMS IPv6 Ready Logo Phase-2. *You can use the online application form https://www.ipv6ready.org/db/index.php/form/.
Conformance test	Test log	The HTML log generated when conformance test was executed.
	Configuration file	The config.txt set up when conformance test was executed.
	Test tool	The test tool which was used when conformance test was executed.
Interoperability test	Test Result Table	The sheet that describes the information of test results in interoperability test.
	Topology Map	The sheet that describes the information of topology map, IP address and AKA information (and SIP digest secret key information if SIP digest was tested) when interoperability test was executed.
	Packet Capture File	The Packet Capture File (e.g. tcpdump (pcap)) of each link acquired when interoperability test was executed.

The detail of each submission is described in the following subsections. Also, the directory structure is described in subsection 3.5.

3.2 Application form

Fill out the online application form https://www.ipv6ready.org/db/index.php/form/ and then submit them.

For more information how to fill out the application form, see https://www.ipv6ready.org/db/index.php/form/.

3.3 Submission for conformance test

3.3.1. Conformance test log

Submit all HTML logs that have been generated and stored in a configured directory during conformance test. The directory structure is described in subsection 3.5.

3.3.2. Conformance test configuration file

Submit the config.txt that has been configured and stored in the same directory as subsection 3.3.1 during conformance test.

3.3.3. Conformance test tool

Submit the test tool that was used during conformance test. The directory structure is described in subsection 3.5.

3.4 Submission for interoperability test

3.4.1. Interoperability test result table

Fill in the information of test results in interoperability test. Fill out the **Result Table sheets included in Interoperability test Scenario document** and submit it to us (You can use any formats for sending Result Table to us. For example, you can use txt format.). The directory structure for submission is described in subsection 3.5.

For information on how to fill Result Table sheets, see the following.

-- Result Table

Fill out interoperability test results, as the examples at the end of Result Table sheets. You can submit it only if all blanks are filled in “PASS”.

3.4.2. Topology Map

Fill in vender name, device name, topology map that is used in interoperability test.

Fill in the information of test topology in interoperability test. Fill out the **Topology Map sheets included in Interoperability test Scenario document** and submit it to us (You can use any formats for sending Topology Map to us. For example, you can use txt format.). The directory structure for submission is described in subsection 3.5.

For information on how to fill out Topology Map sheets, see the following.
Fill in the configuration of interoperability test as the examples in Topology Map sheets.

-- Topology Map
Fill in Interoperability test scenario Item number, vender name, device name, topology map of UE / CSCFs / HSS that is used in interoperability test.

-- IP address information
Fill in prefix of each link and IP address / MAC address of UE / CSCFs / HSS. Fill in the address of when you have executed interoperability test.

-- AKA information
Fill in the subscribe key (Secret key) using for AKA when you have executed interoperability test.

-- SIP digest secret key information
Fill in the secret key (password) using for SIP digest when you have executed interoperability test.

3.4.3. Scenario Check Sheet

This sheet is used to check items of “Observable Result” in interoperability scenario when interoperability test is executed. This document does not have to be submitted for the IMS IPv6 Ready Logo Phase-2. It is included in this document.

3.4.4. Packet Capture File

Submit packet capture files (e.g. tcpdump (pcap)) on each link during the interoperability test. The file name syntax of this packet capture file must be:
[ScenarioName]_[Send Vendor]_[Recieve Vendor]_[Link No].cap.

Ex.)

In case of the test of IMS.INTEROP.3.1.1;

- Vender name of sender : FooCorp
- Vender name of receiver : HogeCorp
- Link : Link1

The file name should be “IMS.INTEROP.3.1.1_FooCorp_HogeCorp_Link1.cap”.

3.5 Directory structure

Before submitting, check and organize your all data as following directory structure:

For UE

IPv6ReadyLogoForIms_*YourVenderName* /

```
|
|
|-----ConformanceTestLog/
|                    |-----<Conformance Test results (e.g. ct-ims-ipv6ue.tar.gz)>
|
|
|
|
|
|
|
|
|-----IOTestLog/
      |
      |-----result_tbl.txt
      |----- InteroperableVenderName_01/
      |           |-----topologymap.txt
      |           |----- PacketCaptureFile /
      |               |----- IMS.INTEROP.1.1.1_SendVender_RecieveVendor_LinkNo.cap
      |               |----- IMS.INTEROP.1.1.2_SendVender_RecieveVendor_LinkNo.cap
      |               |-----
      |----- InteroperableVenderName_02/
                  |-----topologymap.txt
                  |----- PacketCaptureFile /
      |               |----- IMS.INTEROP.1.1.1_SendVender_RecieveVendor_LinkNo.cap
      |               |----- IMS.INTEROP.1.1.2_SendVender_RecieveVendor_LinkNo.cap
                      |-----
```

```
|--ct-ims-ipv6ue
    |----Makefile
    |----Makefile.inc
    |----ims-ipv6-ue
          |-----index.html
          |-----config.txt
          |-----resutls.html
          |-----1.html
          |-----2.html
          |-----3.html
          |-----
```

Put your all data file under "IPv6ReadyLogoForIms_*YourVenderName*" directory.
Also, make and submit a tar.gz archive file instead of uncompressed files themselves.

APPENDIX

Checksheet of IPv6 Ready Logo Program Phase-2 for SIP IPv6 Interoperability Test Scenario

This sheet is for checking the files that should be submitted for the Interoperability Test.
Fill in "OK" or "NG" on the following blanks (check item) to check that the mandatory files are ready to submit.

Category : UE

Required submission	Reference	Description	Check item
Test Result Table	Chapter 3 *1	End Result	

*1 : Document of "The explanation of the submission".

For UE

Required submission	Reference	Description	Check item *2	
			CmbPtn 1[1]	CmbPtn 2
Topology Map	Chapter 3 *1	Network Topology map. The information of node address, link. AKA information etc		
Packet Capture File *3	Chapter 3 *1	Save the packet logs on each link		

*1 : Document of "The explanation of the submission".

*2 : The number of combinations of the vendor.

*3 : Refer to the next section "Packet Capture File for UE" to see all the Packet Capture Files.

[1] CmbPtn : Combination Pattern

1 Confirmation of Topology Map
Topology Map File for UE

Confirm the existence of the files that should be submitted under the Interoperability Test.
Check OK or NG in the following blank points of "check item" to check that there are necessary files.

Node	Vender Name	
	CmbPtn 1	CmbPtn 2
UE1		
P-CSCF1		
S-CSCF1		
I-CSCF1		
HSS1		
UE2		

* UE2 : The node that is necessary to execute a test from No.7 to 14.

TAR	Category		Test num	Item num	Topology Map File	Check item *1	
						CmbPtn 1	CmbPtn 2
UE	Registration and Authentication	IMS-AKA	1	IMS.INTEROP.1.1.1	- Confirm that the each topology map is based on Topology of document "Interoperability Test Scenario". - Confirm the description of each node information, configured MAC Address on the interface, Link-Local Address and Global Address, with the topology in the scenario. - Confirm the description of AKA information, if AKA is used as a Security mechanism. - Confirm that the combinations of vender name and device name of each node are consistent on all Topology Map. And confirm that these information are consistent with the Target node information (vender name and device name) of the Topology Map and Target node information (vender name) of the Application form.		
			2	IMS.INTEROP.1.1.2			
		SIP digest	3	IMS.INTEROP.1.2.1			
			4	IMS.INTEROP.1.2.2			
	Registration-State Event Package	IMS-AKA	5	IMS.INTEROP.2.1.1			
		SIP digest	6	IMS.INTEROP.2.2.1			
	Session	IMS-AKA	7	IMS.INTEROP.3.1.1			
			8	IMS.INTEROP.3.1.2			
			9	IMS.INTEROP.3.1.3			
			10	IMS.INTEROP.3.1.4			
		SIP digest	11	IMS.INTEROP.3.2.1			
			12	IMS.INTEROP.3.2.2			
			13	IMS.INTEROP.3.2.3			
			14	IMS.INTEROP.3.2.4			

: BASIC (IMS-AKA is mandatory for all UEs containing a UICC)
: ADVANCED

*1 : The number of combinations of the vendor.

2 Confirmation of Packet Capture File
Packet Capture File for UA

Confirm the existence of the files that should be submitted under the Interoperability Test.
Check OK or NG in the following blank points of "check item" to check that there are necessary files.

TAR	Category		Test num	Item num	Packet Capture File	Check item *1	
						CmbPtn 1	CmbPtn 2
UE	Registration and Authentication	IMS-AKA	1	IMS.INTEROP.1.1.1	IMS.INTEROP.1.1.1_*SendVender_RecieveVendor*_Link1.cap		
			2	IMS.INTEROP.1.1.2	IMS.INTEROP.1.1.2_*SendVender_RecieveVendor*_Link1.cap		
		SIP digest	3	IMS.INTEROP.1.2.1	IMS.INTEROP.1.2.1_*SendVender_RecieveVendor*_Link1.cap		
			4	IMS.INTEROP.1.2.2	IMS.INTEROP.1.2.2_*SendVender_RecieveVendor*_Link1.cap		
	Registration-State Event Package	IMS-AKA	5	IMS.INTEROP.2.1.1	IMS.INTEROP.2.1.1_*SendVender_RecieveVendor*_Link1.cap		
		SIP digest	6	IMS.INTEROP.2.2.1	IMS.INTEROP.2.2.1_*SendVender_RecieveVendor*_Link1.cap		
	Session	IMS-AKA	7	IMS.INTEROP.3.1.1	IMS.INTEROP.3.1.1_*SendVender_RecieveVendor*_Link1.cap		
			8	IMS.INTEROP.3.1.2	IMS.INTEROP.3.1.2_*SendVender_RecieveVendor*_Link1.cap		
			9	IMS.INTEROP.3.1.3	IMS.INTEROP.3.1.3_*SendVender_RecieveVendor*_Link1.cap		
			10	IMS.INTEROP.3.1.4	IMS.INTEROP.3.1.4_*SendVender_RecieveVendor*_Link1.cap		
		SIP digest	11	IMS.INTEROP.3.2.1	IMS.INTEROP.3.2.1_*SendVender_RecieveVendor*_Link1.cap		
			12	IMS.INTEROP.3.2.2	IMS.INTEROP.3.2.2_*SendVender_RecieveVendor*_Link1.cap		
			13	IMS.INTEROP.3.2.3	IMS.INTEROP.3.2.3_*SendVender_RecieveVendor*_Link1.cap		
			14	IMS.INTEROP.3.2.4	IMS.INTEROP.3.2.4_*SendVender_RecieveVendor*_Link1.cap		

: BASIC (IMS-AKA is mandatory for all UEs containing a UICC)
:ADVANCED

*1 : The number of combinations of the vendor.

3 Confirmation of Judgment
Packet Judgment for UE

Check OK or NG in the following blank points of "check item"

Node	Vender Name	
	CmbPtn 1	CmbPtn 2
UE1		
P-CSCF1		
S-CSCF1		
I-CSCF1		
HSS1		
UE2		

* UE2 : The node that is necessary to execute a test from No.7 to 14.

TAR	Category		Test num	Item num	Packet Capture File	Check item *1	
						CmbPtn 1	CmbPtn 2
UE	Registration and Authentication	IMS-AKA	1	IMS.INTEROP.1.1.1	MS.INTEROP.1.1.1 - Observable Results *2 IMS.INTEROP.1.1.1_*SendVender_RecieveVendor*_Link1.cap		
			2	IMS.INTEROP.1.1.2	IMS.INTEROP.1.1.2- Observable Results *2 IMS.INTEROP.1.1.2_*SendVender_RecieveVendor*_Link1.cap		
		SIP digest	3	IMS.INTEROP.1.2.1	IMS.INTEROP.1.2.1- Observable Results *2 IMS.INTEROP.1.2.1_*SendVender_RecieveVendor*_Link1.cap		
			4	IMS.INTEROP.1.2.2	IMS.INTEROP.1.2.2- Observable Results *2 IMS.INTEROP.1.2.2_*SendVender_RecieveVendor*_Link1.cap		
	Registration-State Event Package	IMS-AKA	5	IMS.INTEROP.2.1.1	IMS.INTEROP.2.1.1- Observable Results *2 IMS.INTEROP.2.1.1_*SendVender_RecieveVendor*_Link1.cap		
		SIP digest	6	IMS.INTEROP.2.2.1	IMS.INTEROP.2.2.1- Observable Results *2 IMS.INTEROP.2.2.1_*SendVender_RecieveVendor*_Link1.cap		
	Session	IMS-AKA	7	IMS.INTEROP.3.1.1	IMS.INTEROP.3.1.1- Observable Results *2 IMS.INTEROP.3.1.1_*SendVender_RecieveVendor*_Link1.cap		
			8	IMS.INTEROP.3.1.2	IMS.INTEROP.3.1.2- Observable Results *2 IMS.INTEROP.3.1.2_*SendVender_RecieveVendor*_Link1.cap		
			9	IMS.INTEROP.3.1.3	IMS.INTEROP.3.1.3- Observable Results *2 IMS.INTEROP.3.1.3_*SendVender_RecieveVendor*_Link1.cap		
			10	IMS.INTEROP.3.1.4	IMS.INTEROP.3.1.4- Observable Results *2 IMS.INTEROP.3.1.4_*SendVender_RecieveVendor*_Link1.cap		
		SIP digest	11	IMS.INTEROP.3.2.1	IMS.INTEROP.3.2.1- Observable Results *2 IMS.INTEROP.3.2.1_*SendVender_RecieveVendor*_Link1.cap		
			12	IMS.INTEROP.3.2.2	IMS.INTEROP.3.2.2- Observable Results *2 IMS.INTEROP.3.2.2_*SendVender_RecieveVendor*_Link1.cap		
			13	IMS.INTEROP.3.2.3	IMS.INTEROP.3.2.3- Observable Results *2 IMS.INTEROP.3.2.3_*SendVender_RecieveVendor*_Link1.cap		
			14	IMS.INTEROP.3.2.4	IMS.INTEROP.3.2.4- Observable Results *2 IMS.INTEROP.3.2.4_*SendVender_RecieveVendor*_Link1.cap		

: BASIC (IMS-AKA is mandatory for all UEs containing a UICC)
: ADVANCED

*1 : The number of combinations of the vendor.
*2 : The Interoperability Test Scenario.

Check item : CmbPtn 1 / CmbPtn 2 *1

Use the following lists for the confirmation of the IP/MAC address when confirming above Packet Judgment.

Test num	Item num	Link no	Source IP address	Destination IP address	Source MAC address	Destination MAC address
1	IMS.INTEROP.1.1.1	Link 1				
2	IMS.INTEROP.1.1.2	Link 1				
3	IMS.INTEROP.1.2.1	Link 1				
4	IMS.INTEROP.1.2.2	Link 1				
5	IMS.INTEROP.2.1.1	Link 1				
6	IMS.INTEROP.2.2.1	Link 1				
7	IMS.INTEROP.3.1.1	Link 1				
8	IMS.INTEROP.3.1.2	Link 1				
9	IMS.INTEROP.3.1.3	Link 1				
10	IMS.INTEROP.3.1.4	Link 1				
11	IMS.INTEROP.3.2.1	Link 1				
12	IMS.INTEROP.3.2.2	Link 1				
13	IMS.INTEROP.3.2.3	Link 1				
14	IMS.INTEROP.3.2.4	Link 1				

: BASIC (IMS-AKA is mandatory for all UEs containing a UICC)
:ADVANCED

*1 : The number of combinations of the vendor.

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