

# ETSI ES 203 915-15 V1.3.1 (2008-04)

ETSI Standard

## Open Service Access (OSA); Application Programming Interface (API); Part 15: Multi-Media Messaging SCF (Parlay 5)



**iTeh STANDARD PREVIEW**  
(standards.iteh.ai)

Full standard:  
<https://standards.iteh.ai/catalog/standards/sist/4ed5144-a1e0-4848-9402-a5591d6783b3/etsi-es-203-915-15-v1.3.1-2008-04>



---

Reference

RES/TISPAN-01055-15-OSA

---

Keywords

API, IDL, OSA, UML

**ETSI**

650 Route des Lucioles  
F-06921 Sophia Antipolis Cedex - FRANCE

Tel.: +33 4 92 94 42 00 Fax: +33 4 93 65 47 16

Siret N° 348 623 562 00017 - NAF 742 C  
Association à but non lucratif enregistrée à la  
Sous-Préfecture de Grasse (06) N° 7803/88

---

**Important notice**

Individual copies of the present document can be downloaded from:

<http://www.etsi.org>

The present document may be made available in more than one electronic version or in print. In any case of existing or perceived difference in contents between such versions, the reference version is the Portable Document Format (PDF). In case of dispute, the reference shall be the printing on ETSI printers of the PDF version kept on a specific network drive within ETSI Secretariat.

Users of the present document should be aware that the document may be subject to revision or change of status. Information on the current status of this and other ETSI documents is available at

<http://portal.etsi.org/tb/status/status.asp>

If you find errors in the present document, please send your comment to one of the following services:

[http://portal.etsi.org/chaicor/ETSI\\_support.asp](http://portal.etsi.org/chaicor/ETSI_support.asp)

---

**Copyright Notification**

No part may be reproduced except as authorized by written permission.  
The copyright and the foregoing restriction extend to reproduction in all media.

© European Telecommunications Standards Institute 2008.

© The Parlay Group 2008.

All rights reserved.

DECT™, PLUGTESTS™, UMTS™, TIPHON™, the TIPHON logo and the ETSI logo are Trade Marks of ETSI registered for the benefit of its Members.

3GPP™ is a Trade Mark of ETSI registered for the benefit of its Members and of the 3GPP Organizational Partners.

# Contents

Intellectual Property Rights .....	8
Foreword.....	8
1 Scope .....	9
2 References .....	9
3 Definitions and abbreviations.....	9
3.1 Definitions .....	9
3.2 Abbreviations .....	9
4 Multi Media Messaging SCF .....	10
5 Sequence Diagrams .....	10
5.1 Sending messages and receiving delivery notification .....	10
5.2 Sending, and receiving messages in same context .....	12
5.3 Setting notification of received messages .....	13
5.4 Using Mailbox functions .....	14
5.5 Using Mailbox to send and receive .....	16
5.6 Setting notification of received messages .....	17
6 Class Diagrams.....	18
7 The Service Interface Specifications .....	19
7.1 Interface Specification Format .....	19
7.1.1 Interface Class .....	19
7.1.2 Method descriptions.....	19
7.1.3 Parameter descriptions.....	19
7.1.4 State Model.....	19
7.2 Base Interface.....	19
7.2.1 Interface Class IpInterface.....	19
7.3 Service Interfaces .....	20
7.3.1 Overview .....	20
7.4 Generic Service Interface .....	20
7.4.1 Interface Class IpService .....	20
7.4.1.1 Method setCallback().....	20
7.4.1.2 Method setCallbackWithSessionID().....	20
8 Multi Media Messaging Interface Classes .....	21
8.1 Interface Class IpMultiMediaMessagingManager .....	21
8.1.1 Method openMailbox().....	22
8.1.2 Method openMultiMediaMessaging() .....	23
8.1.3 Method createNotification().....	24
8.1.4 Method destroyNotification() .....	24
8.1.5 Method changeNotification().....	25
8.1.6 Method getNextNotification() .....	25
8.1.7 Method enableNotifications() .....	26
8.1.8 Method disableNotifications() .....	26
8.2 Interface Class IpAppMultiMediaMessagingManager.....	26
8.2.1 Method mailboxTerminated().....	27
8.2.2 Method reportNotification().....	27
8.2.3 Method notificationsInterrupted().....	28
8.2.4 Method notificationsResumed().....	28
8.2.5 Method multiMediaMessagingTerminated() .....	28
8.2.6 Method terminateMultipleMailboxes().....	28
8.2.7 Method terminateMultipleMultiMediaMessagingSessions().....	28
8.3 Interface Class IpMailbox .....	29
8.3.1 Method close().....	31
8.3.2 Method createFolderReq().....	31

8.3.3	Method getFoldersReq()	31
8.3.4	Method deleteFolderReq()	32
8.3.5	Method copyFolderReq()	32
8.3.6	Method moveFolderReq()	33
8.3.7	Method putMessageReq()	33
8.3.8	Method copyMessageReq()	34
8.3.9	Method moveMessageReq()	35
8.3.10	Method deleteMessageReq()	35
8.3.11	Method listMessagesReq()	36
8.3.12	Method listMessageBodyPartsReq()	37
8.3.13	Method getMessageBodyPartsReq()	37
8.3.14	Method getMessageHeadersReq()	38
8.3.15	Method getMessageContentReq()	38
8.3.16	Method getFullMessageReq()	39
8.3.17	Method getMailboxInfoPropertiesReq()	40
8.3.18	Method getFolderInfoPropertiesReq()	40
8.3.19	Method getMessageInfoPropertiesReq()	40
8.3.20	Method setMessageInfoPropertiesReq()	41
8.4	Interface Class IpAppMailbox	42
8.4.1	Method createFolderRes()	43
8.4.2	Method createFolderErr()	44
8.4.3	Method getFoldersRes()	44
8.4.4	Method getFoldersErr()	45
8.4.5	Method deleteFolderRes()	45
8.4.6	Method deleteFolderErr()	45
8.4.7	Method copyFolderRes()	46
8.4.8	Method copyFolderErr()	46
8.4.9	Method moveFolderRes()	46
8.4.10	Method moveFolderErr()	47
8.4.11	Method putMessageRes()	47
8.4.12	Method putMessageErr()	47
8.4.13	Method copyMessageRes()	48
8.4.14	Method copyMessageErr()	48
8.4.15	Method moveMessageRes()	48
8.4.16	Method moveMessageErr()	49
8.4.17	Method deleteMessageRes()	49
8.4.18	Method deleteMessageErr()	49
8.4.19	Method listMessagesRes()	50
8.4.20	Method listMessagesErr()	50
8.4.21	Method listMessageBodyPartsRes()	50
8.4.22	Method listMessageBodyPartsErr()	51
8.4.23	Method getMessageBodyPartsRes()	51
8.4.24	Method getMessageBodyPartsErr()	51
8.4.25	Method getMessageHeadersRes()	52
8.4.26	Method getMessageHeadersErr()	52
8.4.27	Method getMessageContentRes()	53
8.4.28	Method getMessageContentErr()	53
8.4.29	Method getFullMessageRes()	53
8.4.30	Method getFullMessageErr()	54
8.4.31	Method getMailboxInfoPropertiesRes()	54
8.4.32	Method getFolderInfoPropertiesRes()	54
8.4.33	Method getMessageInfoPropertiesRes()	55
8.4.34	Method setMessageInfoPropertiesRes()	55
8.4.35	Method setMessageInfoPropertiesErr()	56
8.4.36	Method getMailboxInfoPropertiesErr()	56
8.4.37	Method getFolderInfoPropertiesErr()	56
8.4.38	Method getMessageInfoPropertiesErr()	57
8.5	Interface Class IpMultiMediaMessaging	57
8.5.1	Method sendMessageReq()	58
8.5.2	Method cancelMessageReq()	59
8.5.3	Method queryStatusReq()	60
8.5.4	Method close()	60

8.5.5	Method <<new>> sendMessageWithNotifyReq() .....	60
8.6	Interface Class IpAppMultiMediaMessaging .....	62
8.6.1	Method sendMessageRes() .....	62
8.6.2	Method sendMessageErr() .....	63
8.6.3	Method cancelMessageRes() .....	63
8.6.4	Method cancelMessageErr() .....	63
8.6.5	Method queryStatusRes() .....	64
8.6.6	Method queryStatusErr() .....	64
8.6.7	Method messageStatusReport() .....	64
8.6.8	Method messageReceived() .....	65
8.6.9	Method <<new>> sendMessageWithNotifyRes() .....	65
8.6.10	Method <<new>> sendMessageWithNotifyErr() .....	66
9	State Transition Diagrams .....	66
10	Multi-Media Messaging Service Properties .....	66
11	Data Definitions .....	67
11.1	Multi-Media Messaging data definitions .....	67
11.1.1	IpMultiMediaMessagingManager .....	67
11.1.2	IpMultiMediaMessagingManagerRef .....	67
11.1.3	IpAppMultiMediaMessagingManager .....	67
11.1.4	IpAppMultiMediaMessagingManagerRef .....	67
11.1.5	IpMailbox .....	67
11.1.6	IpMailboxRef .....	67
11.1.7	IpAppMailbox .....	67
11.1.8	IpAppMailboxRef .....	67
11.1.9	IpMultiMediaMessaging .....	67
11.1.10	IpMultiMediaMessagingRef .....	68
11.1.11	IpAppMultiMediaMessaging .....	68
11.1.12	IpAppMultiMediaMessagingRef .....	68
11.1.13	TpBodyPartDescription .....	68
11.1.14	TpBodyPartDescriptionList .....	68
11.1.15	TpBodyPart .....	68
11.1.16	TpBodyPartList .....	69
11.1.17	TpDeliveryTime .....	69
11.1.18	TpDeliveryTimeType .....	69
11.1.19	TpFolderInfoProperty .....	69
11.1.20	TpFolderInfoPropertyName .....	69
11.1.21	TpFolderInfoPropertySet .....	70
11.1.22	TpGenericHeaderField .....	70
11.1.23	TpListMessagesCriteria .....	70
11.1.24	TpMailboxFolderStatusInformation .....	70
11.1.25	TpMailboxIdentifier .....	70
11.1.26	TpMailboxIdentifierSet .....	70
11.1.27	TpMailboxInfoProperty .....	71
11.1.28	TpMailboxInfoPropertyName .....	71
11.1.29	TpMailboxInfoPropertySet .....	71
11.1.30	TpMailboxMessageStatus .....	71
11.1.31	TpMessageDeliveryType .....	72
11.1.32	TpMessageInfoProperty .....	72
11.1.33	TpMessageInfoPropertyName .....	73
11.1.34	TpMessageInfoPropertySet .....	73
11.1.35	TpMessageHeaderFieldType .....	74
11.1.36	TpMessageHeaderField .....	75
11.1.37	TpMessageHeaderFieldSet .....	75
11.1.38	TpMessagePriority .....	75
11.1.39	TpMessageDeliveryReportType .....	76
11.1.40	TpMessageTreatment .....	76
11.1.41	TpMessageTreatmentType .....	76
11.1.42	TpMessageTreatmentSet .....	76
11.1.43	TpMultiMediaMessagingIdentifier .....	77
11.1.44	TpMultiMediaMessagingIdentifierSet .....	77

11.1.45	TpQueryStatusReport .....	77
11.1.46	TpQueryStatusReportSet .....	77
11.1.47	TpTerminatingAddressList .....	77
11.2	Event Notification data definitions .....	78
11.2.1	TpMessagingEventName .....	78
11.2.2	TpMessagingEventCriteria .....	78
11.2.3	TpMessagingEventCriteriaSet .....	78
11.2.4	TpNewMailboxMessageArrivedCriteria .....	78
11.2.5	TpNewMessageArrivedCriteria .....	79
11.2.6	TpMessagingEventInfo .....	79
11.2.7	TpMessagingEventInfoSet .....	79
11.2.8	TpNewMailboxMessageArrivedInfo .....	79
11.2.9	TpNewMessageArrivedInfo .....	80
11.2.10	TpMessageDescription .....	80
11.2.11	TpMessageDescriptionList .....	80
11.2.12	TpMessagingNotificationRequested .....	80
11.2.13	TpMessagingNotificationRequestedSet .....	80
11.2.14	TpMessagingNotificationRequestedSetEntry .....	81
11.2.15	TpNewMessageStatusReportArrivedInfo .....	81
11.3	Error type data definitions .....	81
11.3.1	TpMessageInfoPropertyError .....	81
11.3.2	TpMessagingError .....	81
11.3.3	TpMessageInfoPropertyErrorSet .....	82
11.3.4	TpSetPropertyError .....	82
12	Exception Classes .....	83
<b>Annex A (normative):</b>	<b>OMG IDL Description of Multi-Media Messaging SCF .....</b>	<b>84</b>
<b>Annex B (informative):</b>	<b>W3C WSDL Description of Multi-Media Messaging SCF .....</b>	<b>85</b>
<b>Annex C (informative):</b>	<b>Java API Description of the Multi-Media Messaging SCF .....</b>	<b>86</b>
<b>Annex D (informative):</b>	<b>Contents of 3GPP OSA R6 Multi-Media Messaging .....</b>	<b>87</b>
<b>Annex E (informative):</b>	<b>Description of Multi Media Messaging for 3GPP2 cdma2000 networks .....</b>	<b>88</b>
E.1	General Exceptions .....	88
E.2	Specific Exceptions .....	88
E.2.1	Clause 1: Scope .....	88
E.2.2	Clause 2: References .....	88
E.2.3	Clause 3: Definitions and abbreviations .....	88
E.2.4	Clause 4: Multi Media Messaging SCF .....	88
E.2.5	Clause 5: Sequence Diagrams .....	88
E.2.6	Clause 6: Class Diagrams .....	88
E.2.7	Clause 7: The Service Interface Specifications .....	88
E.2.8	Clause 8: Multi Media Messaging Interface Classes .....	89
E.2.9	Clause 9: State Transition Diagrams .....	89
E.2.10	Clause 10: Multi-Media Messaging Service Properties .....	89
E.2.11	Clause 11: Data Definitions .....	89
E.2.12	Clause 12: Exception Classes .....	89
E.2.13	Annex A (normative): OMG IDL Description of Multi-Media Messaging SCF .....	89
E.2.14	Annex B (informative): W3C WSDL Description of Multi-Media Messaging SCF .....	89
E.2.15	Annex C (informative): Java API Description of the Multi-Media Messaging SCF .....	89
<b>Annex F (informative):</b>	<b>Record of changes .....</b>	<b>90</b>
F.1	Interfaces .....	90
F.1.1	New .....	90
F.1.2	Deprecated .....	90
F.1.3	Removed .....	90

F.2	Methods.....	91
F.2.1	New.....	91
F.2.2	Deprecated.....	91
F.2.3	Modified.....	91
F.2.4	Removed.....	91
F.3	Data Definitions.....	92
F.3.1	New.....	92
F.3.2	Modified.....	92
F.3.3	Removed.....	92
F.4	Service Properties.....	92
F.4.1	New.....	92
F.4.2	Deprecated.....	93
F.4.3	Modified.....	93
F.4.4	Removed.....	93
F.5	Exceptions.....	93
F.5.1	New.....	93
F.5.2	Modified.....	94
F.5.3	Removed.....	94
F.6	Others.....	94
	History.....	95

**ITeH STANDARD PREVIEW**  
 (standards.iteh.ai)

Full standard:  
<https://standards.iteh.ai/catalog/standards/sist/4ed55144-a1eb-4848-9402-a5591d6783b3/etsi-es-203-915-15-v1.3.1-2008-04>

---

# Intellectual Property Rights

IPRs essential or potentially essential to the present document may have been declared to ETSI. The information pertaining to these essential IPRs, if any, is publicly available for **ETSI members and non-members**, and can be found in ETSI SR 000 314: *"Intellectual Property Rights (IPRs); Essential, or potentially Essential, IPRs notified to ETSI in respect of ETSI standards"*, which is available from the ETSI Secretariat. Latest updates are available on the ETSI Web server (<http://webapp.etsi.org/IPR/home.asp>).

Pursuant to the ETSI IPR Policy, no investigation, including IPR searches, has been carried out by ETSI. No guarantee can be given as to the existence of other IPRs not referenced in ETSI SR 000 314 (or the updates on the ETSI Web server) which are, or may be, or may become, essential to the present document.

---

## Foreword

This ETSI Standard (ES) has been produced by ETSI Technical Committee Telecommunications and Internet converged Services and Protocols for Advanced Networking (TISPAN).

The present document is part 15 of a multi-part deliverable covering Open Service Access (OSA); Application Programming Interface (API), as identified below. The API specification (ES 203 915) is structured in the following parts:

- Part 1: "Overview";
- Part 2: "Common Data Definitions";
- Part 3: "Framework";
- Part 4: "Call Control";
- Part 5: "User Interaction SCF";
- Part 6: "Mobility SCF";
- Part 7: "Terminal Capabilities SCF";
- Part 8: "Data Session Control SCF";
- Part 9: "Generic Messaging SCF";
- Part 10: "Connectivity Manager SCF";
- Part 11: "Account Management SCF";
- Part 12: "Charging SCF";
- Part 13: "Policy Management SCF";
- Part 14: "Presence and Availability Management SCF";

**Part 15: "Multi-Media Messaging SCF".**

The present document has been defined jointly between ETSI, The Parlay Group (<http://www.parlay.org>) and the 3GPP, in co-operation with a number of JAIN™ Community (<http://www.java.sun.com/products/jain>) member companies.

**The present document forms part of the Parlay 5.2 set of specifications.**

**The present document is equivalent to 3GPP TS 29.198-15 V6.6.0 (Release 6).**



---

# 1 Scope

The present document is part 15 of the Stage 3 specification for an Application Programming Interface (API) for Open Service Access (OSA).

The OSA specifications define an architecture that enables application developers to make use of network functionality through an open standardised interface, i.e. the OSA APIs.

The present document specifies the Multi Media Messaging Service Capability Feature (SCF) aspects of the interface. All aspects of the Multi Media Messaging SCF are defined here, these being:

- Sequence Diagrams.
- Class Diagrams.
- Interface specification plus detailed method descriptions.
- State Transition diagrams.
- Data Definitions.
- IDL Description of the interfaces.

The process by which this task is accomplished is through the use of object modelling techniques described by the Unified Modelling Language (UML).

---

# 2 References

The references listed in clause 2 of ES 203 915-1 contain provisions which, through reference in this text, constitute provisions of the present document.

ETSI ES 203 915-1: "Open Service Access (OSA); Application Programming Interface (API); Part 1: Overview (Parlay 5)".

---

# 3 Definitions and abbreviations

## 3.1 Definitions

For the purposes of the present document, the terms and definitions given in ES 203 915-1 apply.

## 3.2 Abbreviations

For the purposes of the present document, the abbreviations defined in ES 203 915-1 apply.

---

## 4 Multi Media Messaging SCF

The following clauses describe each aspect of the Multi Media Messaging Service Capability Feature (SCF).

The order is as follows:

- The Sequence diagrams give the reader a practical idea of how each of the SCF is implemented.
- The Class relationships clause shows how each of the interfaces applicable to the SCF, relate to one another.
- The Interface specification clause describes in detail each of the interfaces shown within the Class diagram part.
- The State Transition Diagrams (STD) show the transition between states in the SCF. The states and transitions are well-defined; either methods specified in the Interface specification or events occurring in the underlying networks cause state transitions.
- The Data Definitions clause shows a detailed expansion of each of the data types associated with the methods within the classes. Note that some data types are used in other methods and classes and are therefore defined within the Common Data types part ES 203 915-2.

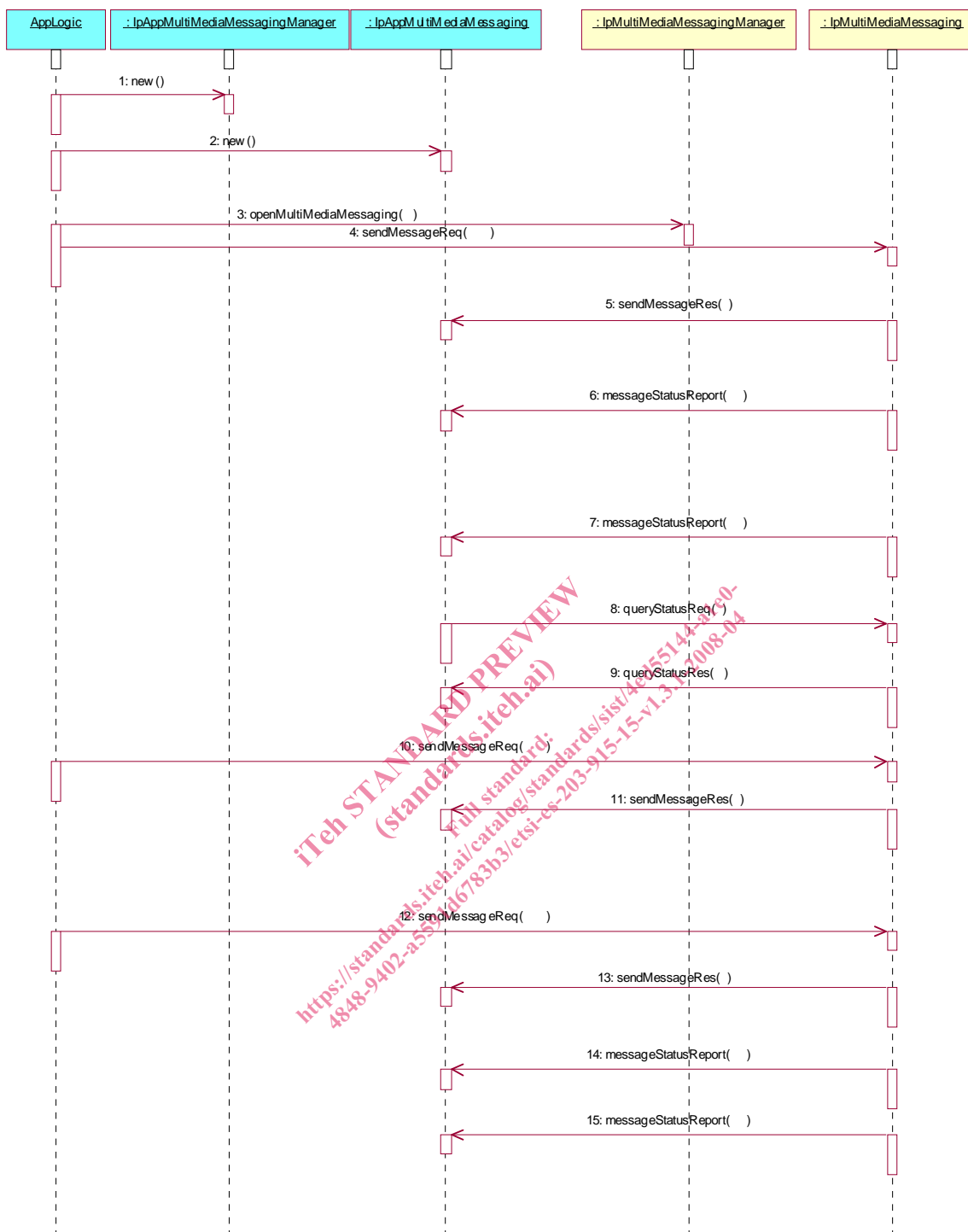
An implementation of this API which supports or implements a method described in the present document, shall support or implement the functionality described for that method, for at least one valid set of values for the parameters of that method. Where a method is not supported by an implementation of a Service interface, the exception P\_METHOD\_NOT\_SUPPORTED shall be returned to any call of that method.

---

## 5 Sequence Diagrams

### 5.1 Sending messages and receiving delivery notification

This sequence diagram shows how the application can send messages on the IpMultiMediaMessaging interface with `sendMessageReq()`, and how the application can be informed about the delivery status of the message with `messageStatusReport()`. It also shows how the application can query the delivery status of a message, with `queryStatusReq()`.



3: Request the opening of a MultiMedia Messaging object. The application intends to use this object to send messages to multiple destinations, so it has not specified any defaultDestinationAddressList.

4: The application sends a message. The destination address is included in the destinationAddressList parameter. If the source address was not provided when the IpMultiMediaMessaging object was created, it can be provided in the sourceAddress parameter. The application has requested delivery receipt and read receipt in the messageTreatment parameter. The assignmentID received as a return parameter enables the application to match any message status information with this message.

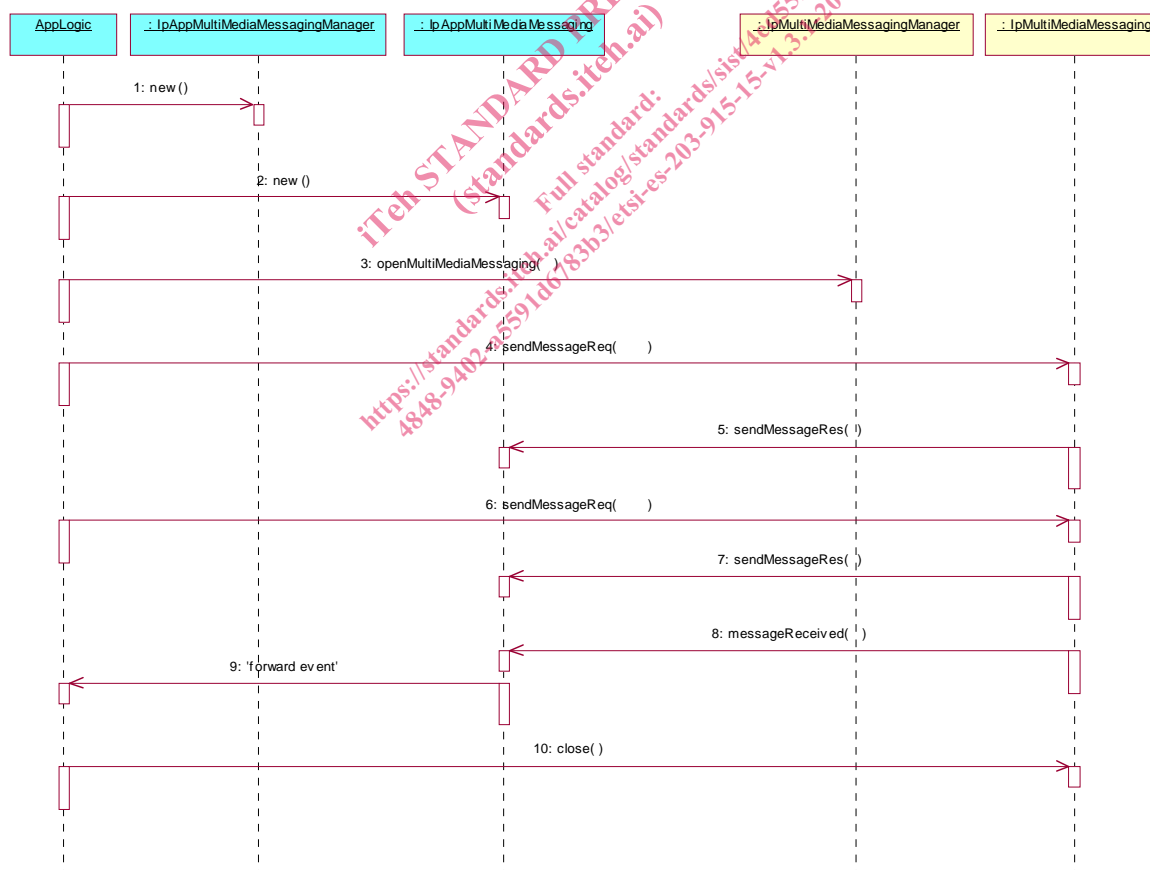
5: This method indicates successful processing of the sendMessageReq by the SCF, and that the message has been sent. It does not indicate a delivery status.

6: This method contains a delivery receipt for the message just sent.

- 7: This method contains a read receipt for the message just sent.
- 8: The application queries the status of the message it has sent (to verify the read receipt? or it has discarded the read receipt?).
- 9: The status of the message is returned.
- 10: The application sends another message, this time to a different destination. It has requested a read receipt to be returned.
- 11: This method indicates successful processing of the sendMessageReq by the SCF, and that the message has been sent. It does not indicate a delivery status.
- 12: The application sends another message, to a different destination. It has requested a read receipt to be returned.
- 14: This method contains an indication that the previous message has been read.
- 15: This method contains an indication that the second message has been read. The assignmentID is used to match this report to the corresponding sendMessageReq().

## 5.2 Sending, and receiving messages in same context

This sequence diagram shows how the application can send and receive messages within the same communication context using sendMessageReq() on the IpMultiMediaMessaging interface and messageReceived() on the IpAppMultiMediaMessaging interface.



3: Request the opening of a MultiMedia Messaging object. The application intends to use this object to send messages to the same destination, so it has specified the defaultdestinationAddressList. The defaultSourceAddress is also specified.

4: The application sends a message. The application has not included a destination address in the destinationAddressList parameter, as a default value has already been supplied in the openMultiMediaMessaging() method. Likewise the default source address was provided when the IpMultiMediaMessaging object was created, so there is no need to provide the sourceAddress parameter. The application has not requested delivery receipt or read receipt in the messageTreatment parameter.

5: This method indicates successful processing of the sendMessageReq by the SCF, and that the message has been sent. It does not indicate a delivery status.

6: The application sends another message to the same destination, again using default values for the destination and source addresses.

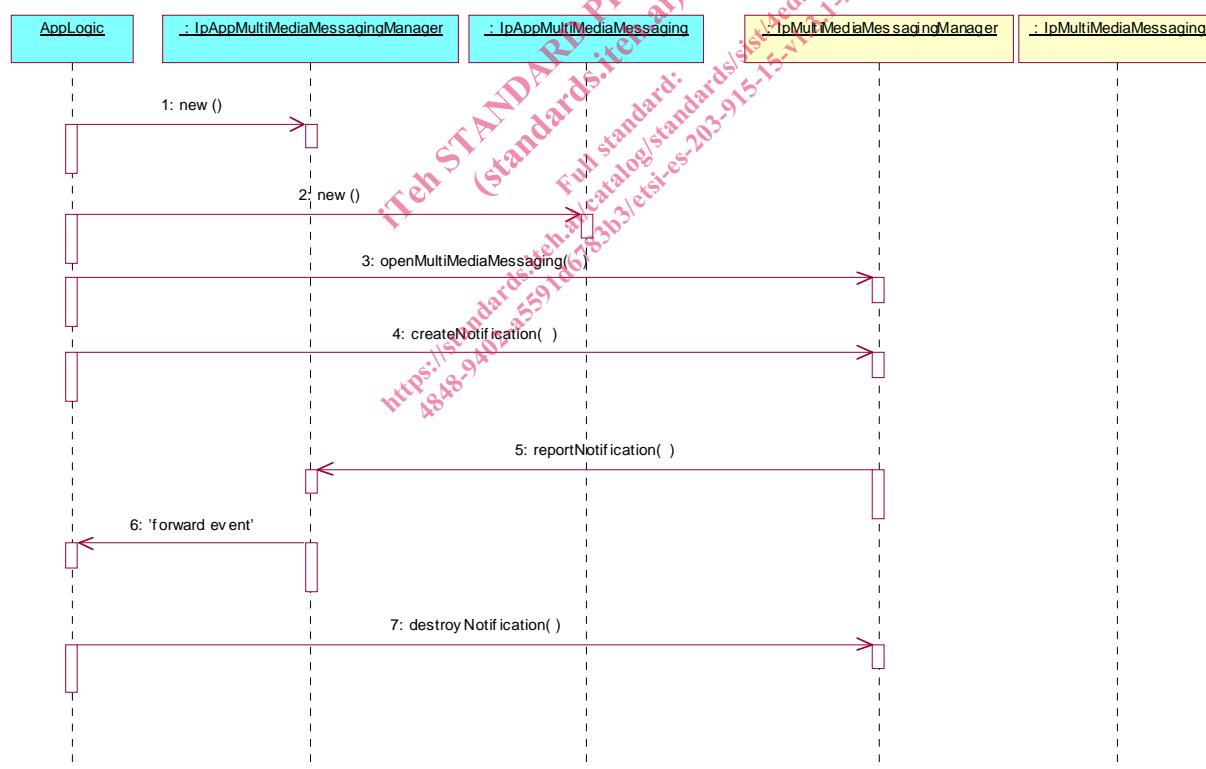
7: This method indicates successful processing of the sendMessageReq by the SCF, and that the message has been sent. It does not indicate a delivery status.

8: A new message is received in this communication context. The full message contents are carried in this method. It is not specified how the SCF identifies that this message is to be delivered in this communication context. The SCF could use source or destination addresses, content type, time or subject, among other parameters, to identify the context.

10: The application closes the session, i.e. closes the communication context.

### 5.3 Setting notification of received messages

This sequence diagram shows how the application can subscribe to notifications, and how it can receive messages using reportNotifications() method.



3: The application requests the opening of a MultiMedia Messaging object.

4: The application requests to be notified of any messages received for a particular destination address, using the P\_EVENT\_MSG\_NEW\_MESSAGE\_ARRIVED criteria. The application may request that a MultiMedia Messaging session is created upon receipt of a message.

5: A message is received for the destination address identified in the createNotification() method. In this type of event (P\_EVENT\_MSG\_NEW\_MESSAGE\_ARRIVED), the entire message contents are delivered in the reportNotification() method.