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Technical Specification

**Universal Mobile Telecommunications System (UMTS);
Open Service Access (OSA)
Application Programming Interface (API);
Part 15: Multi-media Messaging (MM)
Service Capability Feature (SCF)
(3GPP TS 29.198-15 version 6.6.1 Release 6)**



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Foreword

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Foreword

This Technical Specification has been produced by the 3rd Generation Partnership Project (3GPP).

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- y the second digit is incremented for all changes of substance, i.e. technical enhancements, corrections, updates, etc.
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Introduction

The present document is part 15 of a multi-part TS covering the 3rd Generation Partnership Project: Technical Specification Group Core Network and Terminals; Open Service Access (OSA); Application Programming Interface (API), as identified below. The **API specification** (3GPP TS 29.198) is structured in the following Parts:

- Part 1: "Overview";
- Part 2: "Common Data Definitions";
- Part 3: "Framework";
- Part 4: "Call Control";
 - Sub-part 1: "Call Control Common Definitions";
 - Sub-part 2: "Generic Call Control SCF";
 - Sub-part 3: "Multi-Party Call Control SCF";
 - Sub-part 4: "Multi-Media Call Control SCF";
 - Sub-part 5: "Conference Call Control SCF"; (not part of 3GPP Release 6)
- 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"; (not part of 3GPP Release 6)
- Part 10: "Connectivity Manager SCF"; (not part of 3GPP Release 6)
- 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"; (new in Release 6)**

The **Mapping specification of the OSA APIs and network protocols** (3GPP TR 29.998) is also structured as above. A mapping to network protocols is however not applicable for all Parts, but the numbering of Parts is kept. Also in case a Part is not supported in a Release, the numbering of the parts is maintained.

Table: Overview of the OSA APIs & Protocol Mappings 29.198 & 29.998-family

OSA API specifications - 29.198-family					OSA API Mapping - 29.998-family	
29.198-01	Overview				29.998-01	Overview
29.198-02	Common Data Definitions				29.998-02	<i>Not Applicable</i>
29.198-03	Framework				29.998-03	<i>Not Applicable</i>
Call Control (CC) SCF	29.198-04-1	29.198-04-2	29.198-04-3	29.198-04-4	29.998-04-1	Generic Call Control - CAP mapping
	Common CC data definitions	Generic CC SCF	Multi-Party CC SCF	Multi-media CC SCF	29.998-04-2	<i>Generic Call Control - INAP mapping</i>
					29.998-04-3	<i>Generic Call Control - Megaco mapping</i>
					29.998-04-4	Multiparty Call Control - SIP mapping
29.198-05	User Interaction SCF				29.998-05-1	User Interaction - CAP mapping
					29.998-05-2	<i>User Interaction - INAP mapping</i>
					29.998-05-3	<i>User Interaction - Megaco mapping</i>
					29.998-05-4	User Interaction - SMS mapping
29.198-06	Mobility SCF				29.998-06	User Status and User Location - MAP mapping
29.198-07	Terminal Capabilities SCF				29.998-07	<i>Not Applicable</i>
29.198-08	Data Session Control SCF				29.998-08	Data Session Control - CAP mapping
29.198-09	<i>Generic Messaging SCF</i>				29.998-09	<i>Not Applicable</i>
29.198-10	<i>Connectivity Manager SCF</i>				29.998-10	<i>Not Applicable</i>
29.198-11	Account Management SCF				29.998-11	<i>Not Applicable</i>
29.198-12	Charging SCF				29.998-12	<i>Not Applicable</i>
29.198-13	Policy Management SCF				29.998-13	<i>Not Applicable</i>
29.198-14	Presence & Availability Management SCF				29.998-14	<i>Not Applicable</i>
29.198-15	Multi-Media Messaging SCF				29.998-15	<i>Not Applicable</i>

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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 standardized interface, i.e. the OSA APIs. The concepts and the functional architecture for the OSA are contained in 3GPP TS 23.198 [3]. The requirements for OSA are contained in 3GPP TS 22.127 [2].

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.
- WSDL 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).

The present document has been defined jointly between 3GPP TSG CT WG5, ETSI TISPAN and the Parlay Group, in co-operation with a number of JAIN™ Community member companies.

2 References

The following documents contain provisions which, through reference in this text, constitute provisions of the present document.

- References are either specific (identified by date of publication, edition number, version number, etc.) or non-specific.
- For a specific reference, subsequent revisions do not apply.
- For a non-specific reference, the latest version applies. In the case of a reference to a 3GPP document (including a GSM document), a non-specific reference implicitly refers to the latest version of that document *in the same Release as the present document*.

- [1] 3GPP TS 29.198-01: "Open Service Access (OSA); Application Programming Interface (API); Part 1: Overview".
- [2] 3GPP TS 22.127: "Service Requirement for the Open Services Access (OSA); Stage 1".
- [3] 3GPP TS 23.198: "Open Service Access (OSA); Stage 2".
- [4] 3GPP TS 29.198-02: "Open Service Access (OSA); Application Programming Interface (API); Part 2: Common data".
- [5] IETF RFC 2045: "Multipurpose Internet Mail Extensions (MIME) Part One: Format of Internet Message Bodies".
- [6] IETF RFC 822: "Standard for the format of ARPA Internet text messages".

- [7] IETF RFC 2183: "Communicating Presentation Information in Internet Messages: The Content-Disposition Header Field".

3 Definitions and abbreviations

3.1 Definitions

For the purposes of the present document, the terms and definitions given in 3GPP TS 29.198-01 [1] apply.

3.2 Abbreviations

For the purposes of the present document, the abbreviations given in 3GPP TS 29.198-01 [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:

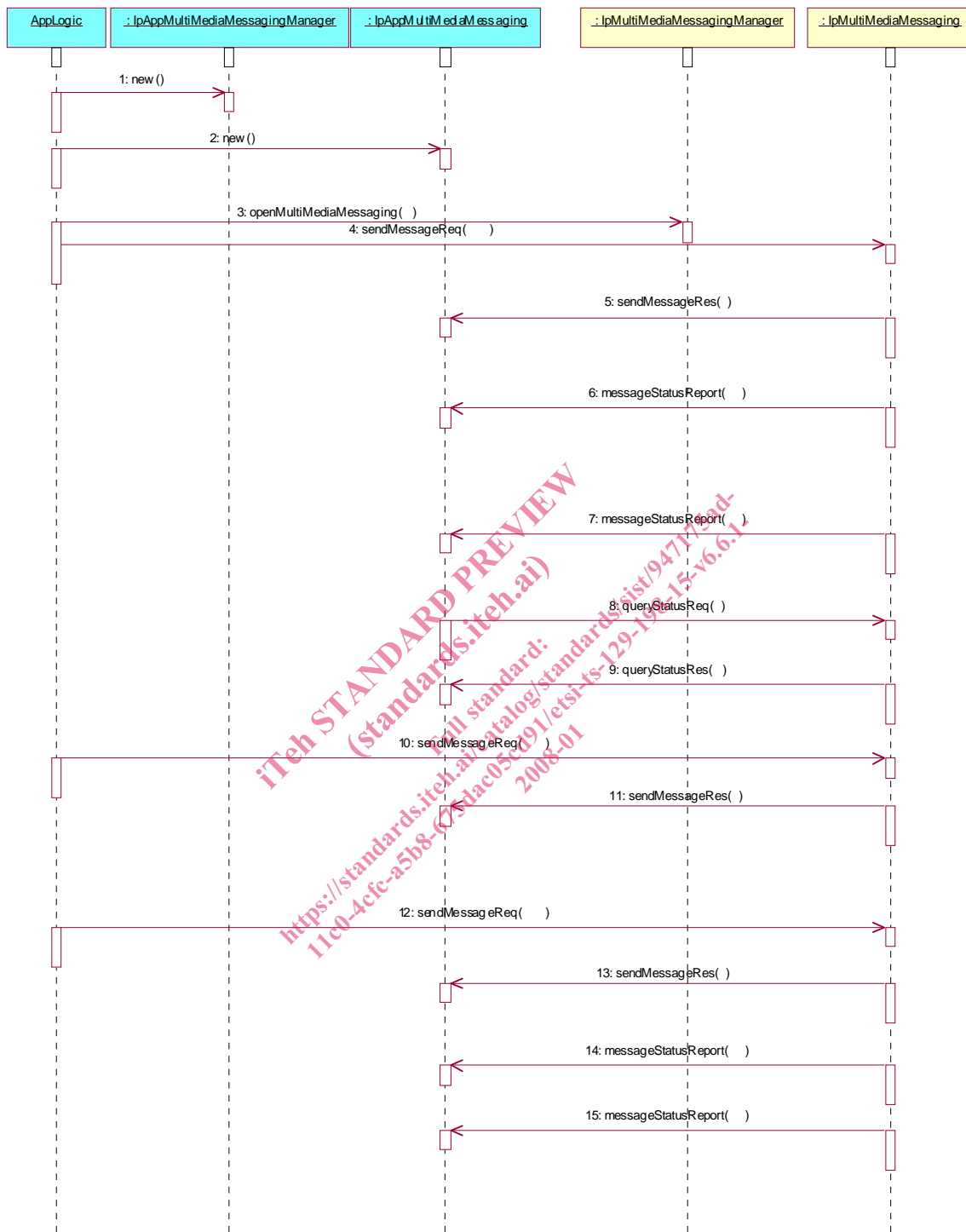
- The Sequence diagrams give the reader a practical idea of how each of the SCF is implemented.
- The Class relationships clause shows how each of the interfaces applicable to the SCF, relate to one another.
- The Interface specification clause describes in detail each of the interfaces shown within 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 TS 29.198-2.

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.