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Contents

Intellectual Property Rights 5
Foreword 5
1 Scope 6
2 References 6
3 Definitions and abbreviations 6
3.1 Definitions 6
3.2 Abbreviations 6
4 Generic Messaging SCF 7
5 Sequence Diagrams 7
5.1 Prepare Mailbox 7
5.2 Open Mailbox 8
5.3 Get Message 8
5.4 Get Folder Information 9
5.5 Close Mailbox 10
6 Class Diagrams 10
7 The Service Interface Specifications 11
7.1 Interface Specification Format 11
7.1.1 Interface Class 11
7.1.2 Method descriptions 11
7.1.3 Parameter descriptions 12
7.1.4 State Model 12
7.2 Base Interface 12
7.2.1 Interface Class IpInterface 12
7.3 Service Interfaces 12
7.3.1 Overview 12
7.4 Generic Service Interface 12
7.4.1 Interface Class IpService 12
8 Generic Messaging Interface Classes 13
8.1 Interface Class IpMessagingManager 14
8.2 Interface Class IpAppMessagingManager 16
8.3 Interface Class IpMailbox 17
8.4 Interface Class IpMailboxFolder 22
8.5 Interface Class IpMessage 26
9 State Transition Diagrams 29
10 Data Definitions 29
10.1 Event notification Definitions 29
10.1.1 TpMessagingEventName 29
10.1.2 TpMessagingEventCriteria 29
10.1.3 TpGMSNewMessageArrivedCriteria 29
10.1.4 TpMessagingEventInfo 30
10.1.5 TpGMSNewMessageArrivedInfo 30
10.2 Generic Messaging Data Definitions 30
10.2.1 IpMessagingManager 30
10.2.2 IpMessagingManagerRef 30
10.2.3 IpAppMessagingManager 30
10.2.4 IpAppMessagingManagerRef 30
10.2.5 IpMailbox 30
10.2.6 IpMailboxRef 30
10.2.7 IpMailboxFolder 31
10.2.8 IpMailboxFolderRef 31

iTeh STANDARD PREVIEW
(standards.iteh.ai)
SIST ES 201 915-9 V1.4.1:2005
https://standards.iteh.ai/catalog/standards/sist/fbb1b22b-115c-4f53-88b2-6474ce6a3cf8/sist-es-201-915-9-v1-4-1-2005

SIST ES 201 915-9 V1.4.1:2005

10.2.9 IpMessage 31
10.2.10 IpMessageRef 31
10.2.11 TpFolderInfoProperty 31
10.2.12 TpFolderInfoPropertyName 31
10.2.13 TpFolderInfoPropertySet 31
10.2.14 TpMailboxFolderIdentifier 32
10.2.15 TpMailboxIdentifier 32
10.2.16 TpMailboxInfoProperty 32
10.2.17 TpMailboxInfoPropertyName 32
10.2.18 TpMailboxInfoPropertySet 32
10.2.19 TpMessage 32
10.2.20 TpMessageFormat 33
10.2.21 TpMessageInfoProperty 33
10.2.22 TpMessageInfoPropertyName 34
10.2.23 TpMessageInfoPropertySet 34
10.2.24 TpMessagePriority 34
10.2.25 TpMessageStatus 35
10.2.26 TpMessagingFault 35

11 Exception Classes 36

Annex A (normative): OMG IDL Description of Generic Messaging SCF 37

Annex B (informative): Record of changes 38

B.1 Interfaces 38
B.1.1 New 38
B.1.2 Deprecated 38
B.1.3 Removed 38

B.2 Methods 38
B.2.1 New 38
B.2.2 Deprecated 38
B.2.3 Modified 39
B.2.4 Removed 39

B.3 Data Definitions 39
B.3.1 New 39
B.3.2 Modified 39
B.3.3 Removed 39

B.4 Service Properties 39
B.4.1 New 39
B.4.2 Deprecated 40
B.4.3 Modified 40
B.4.4 Removed 40

B.5 Exceptions 40
B.5.1 New 40
B.5.2 Modified 40
B.5.3 Removed 40

B.6 Others 40

History 41

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(standards.iteh.ai)
SIST ES 201 915-9 V1.4.1:2005
https://standards.iteh.ai/catalog/standards/sist/fbb1b22b-115c-4f53-88b2-6474ce6a3cf8/sist-es-201-915-9-v1-4-1-2005

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Foreword

This ETSI Standard (ES) has been produced by ETSI Technical Committee Services and Protocols for Advanced Networks (SPAN).

The present document is part 9 of a multi-part deliverable covering Open Service Access (OSA); Application Programming Interface (API), as identified below. The API specification (ES 201 915) is structured in the following parts:

Part 1: "Overview";

Part 2: "Common Data Definitions";

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Part 3: "Framework";

Part 4: "Call Control SCF";

Part 5: "User Interaction SCF";

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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".

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 3.3 set of specifications.

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1 Scope

The present document is part 9 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 Generic Messaging Service Capability Feature (SCF) aspects of the interface. All aspects of the Generic 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).

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2 References

The references listed in clause 2 of ES 201 915-1 contain provisions which, through reference in this text, constitute provisions of the present document.

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ETSI ES 201 915-1: "Open Service Access (OSA); Application Programming Interface (API); Part 1: Overview (Parlay 3)".

3 Definitions and abbreviations

3.1 Definitions

For the purposes of the present document, the terms and definitions given in ES 201 915-1 apply.

3.2 Abbreviations

For the purposes of the present document, the abbreviations defined in ES 201 915-1 apply.

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4 Generic Messaging SCF

The following clauses describe each aspect of the Generic 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 show 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 show 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 of the present document.

5 Sequence Diagrams

5.1 Prepare Mailbox

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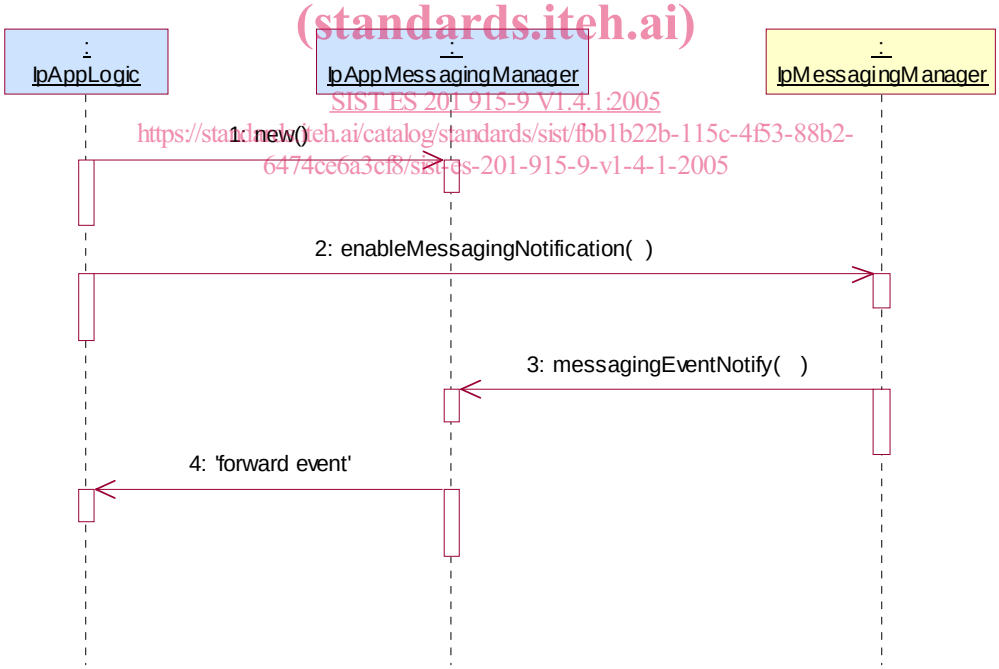

1: This message is used by the application to create an object implementing the IpAppMessagingManager interface.

2: This message is used to enable the notification mechanism so that events can be sent to the application.

When new mail, that matches the event criteria set in message 2, arrives a message indicating the presence of new mail (not shown) is directed to the object implementing the IpMessagingManager.

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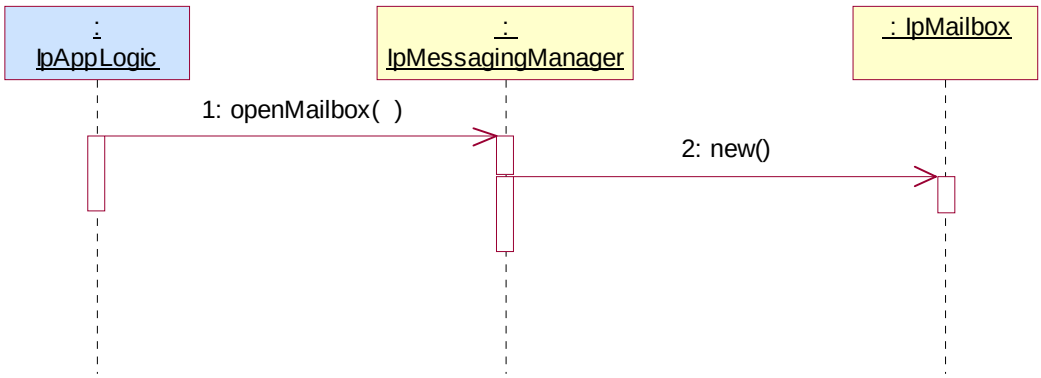
3: This message is used to pass the new mail event to the object implementing the IpAppMessagingManager interface.

4: This message is used to forward message 3 to the IpAppLogic.

5.2 Open Mailbox



1: This message requests the object implementing the IpMessagingManager interface to create an object implementing the IpMailbox interface.

2: Assuming that the criteria for creating an object implementing the IpMailbox interface is met, message 2 is used to create it.

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5.3 Get Message

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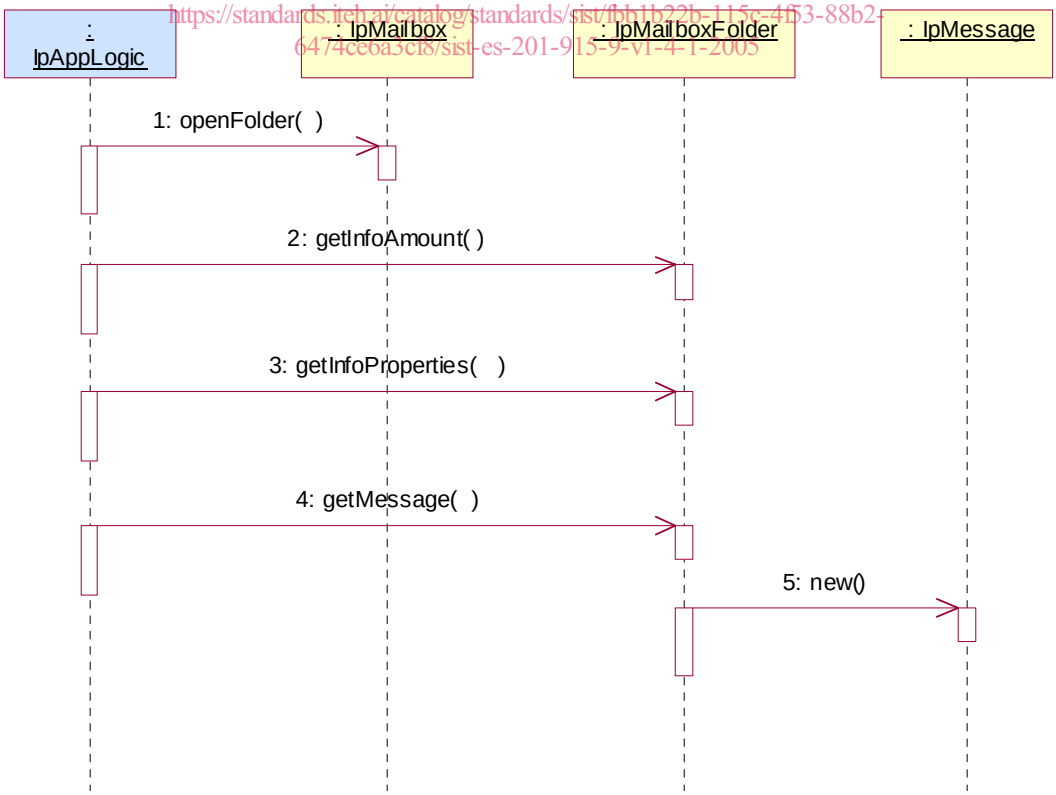

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1: This message requests a folder to be opened and returns a reference to that folder.

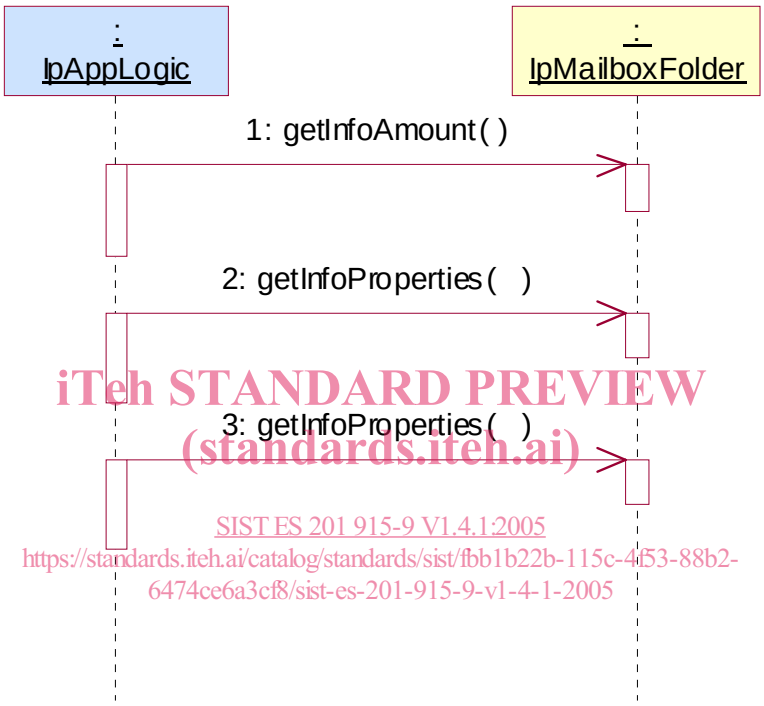
2: This message requests the number of folder information properties of the opened folder.

3: This message requests all of the folder information properties.

4: This message requests a message from the opened mailbox folder.

5: Assuming that the criteria for creating an object implementing the IpMessage interface are met, the (internal) message 5 is used to create it.

5.4 Get Folder Information



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1: This message requests the number of folder information properties of the specified folder.

2: This message requests the first set of folder information properties.

3: This message requests the second set of folder information properties.

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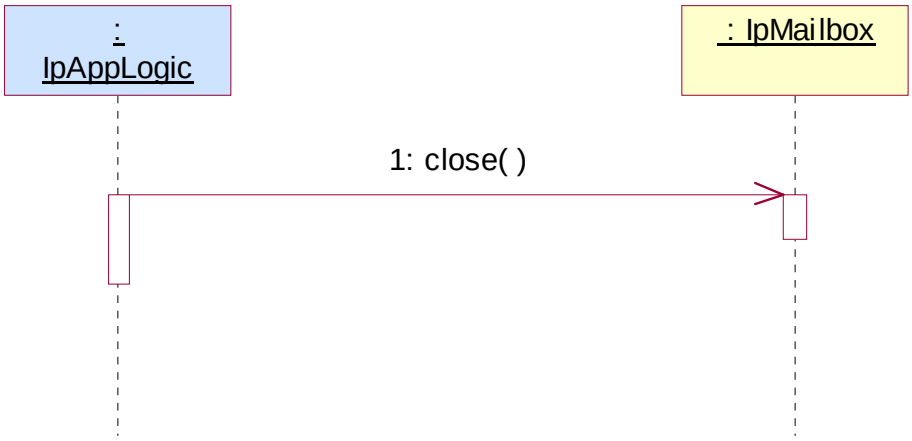
5.5 Close Mailbox



1: This message requests the object implementing the IpMailbox interface to de-assign.

6 Class Diagrams

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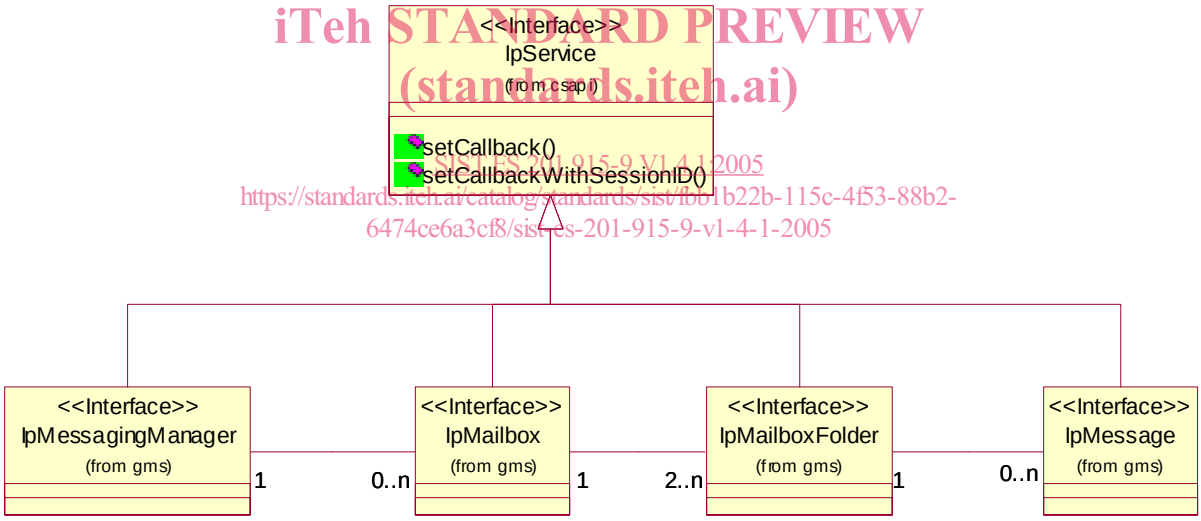

Figure 1: Package Overview: Service Interfaces

The application generic messaging service package consists of only one IpAppMessagingManager interface.

The generic messaging service package consists of one IpMessagingManager interface, zero or more IpMailbox interfaces, zero or more IpMailboxFolder and zero or more IpMessage interfaces.

The class diagram in the following figure shows the interfaces that make up the application generic messaging service package and the generic messaging service package. Communication between these packages is done via the +uses the IpMessagingManager channels. Communication with the IpMailbox and IpMailboxFolder interfaces has to be done via the application logic (not shown).

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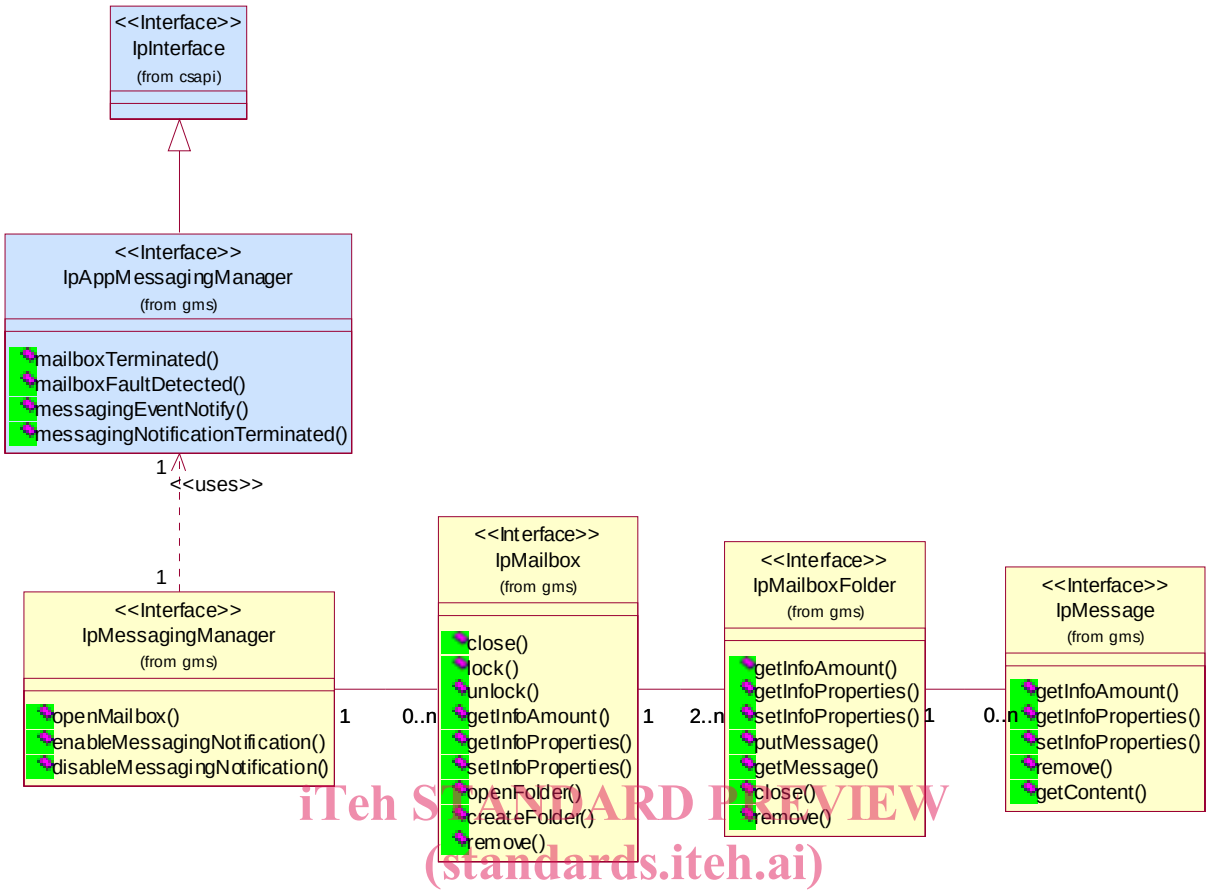

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Figure 2: Package Overview: Application and Service Interfaces

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7 The Service Interface Specifications

7.1 Interface Specification Format

This clause defines the interfaces, methods and parameters that form a part of the API specification. The Unified Modelling Language (UML) is used to specify the interface classes. The general format of an interface specification is described below.

7.1.1 Interface Class

This shows a UML interface class description of the methods supported by that interface, and the relevant parameters and types. The Service and Framework interfaces for enterprise-based client applications are denoted by classes with name `Ip<name>`. The callback interfaces to the applications are denoted by classes with name `IpApp<name>`. For the interfaces between a Service and the Framework, the Service interfaces are typically denoted by classes with name IpSvc<name>, while the Framework interfaces are denoted by classes with name IpFw<name>

7.1.2 Method descriptions

Each method (API method “call”) is described. Both synchronous and asynchronous methods are used in the API. Asynchronous methods are identified by a '`Req`' suffix for a method request, and, if applicable, are served by asynchronous methods identified by either a '`Res`' or '`Err`' suffix for method results and errors, respectively. To handle responses and reports, the application or service developer must implement the relevant `IpApp<name>` or `IpSvc<name>` interfaces to provide the callback mechanism.