

**Open Service Access (OSA);  
Application Programming Interface (API);  
Part 4: Call Control;  
Sub-part 1: Call Control Common Definitions  
(Parlay 4)**

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**Reference**

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## 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 4, sub-part 1 of a multi-part deliverable covering Open Service Access (OSA); Application Programming Interface (API), as identified below. The API specification (ES 202 915) 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";
- 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".

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 4.2 set of specifications.**

**The present document is equivalent to 3GPP TS 29.198-4-1 V5.7.0 (Release 5).**

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# 1 Scope

The present document is part 4, sub-part 1 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 common definitions used by the Call Control Service Capability Features (SCF).

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# 2 References

The references listed in clause 2 of ES 202 915-1 contain provisions which, through reference in this text, constitute provisions of the present document.

ETSI ES 202 915-1: "Open Service Access (OSA); Application Programming Interface (API); Part 1: Overview (Parlay 4)".

ETSI ES 202 915-2: "Open Service Access (OSA); Application Programming Interface (API); Part 2: Common Data Definitions (Parlay 4)".

ETSI ES 202 915-5: "Open Service Access (OSA); Application Programming Interface (API); Part 5: User Interaction SCF (Parlay 4)".

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# 3 Definitions and abbreviations

## 3.1 Definitions

For the purposes of the present document, the terms and definitions given in ES 202 915-1 apply.

## 3.2 Abbreviations

For the purposes of the present document, the abbreviations defined in ES 202 915-1 apply.

---

# 4 Call Control SCF

Four flavours of call control APIs are specified in ES 202 915, Parlay 4. Three of these have been included in 3GPP Release 5. These are the Generic Call Control (GCC), the Multi-Party Call Control (MPCC) and the Multi-Media Call Control (MMCC). The generic call control is the same API as was already present in the previous specification for 3GPP Release 99 (TS 129 198 V3). Multi-Party Call Control was introduced in the Release 4 specifications, and Multi-Media Call Control is introduced in Release 5. All four have been included in ETSI ES 201 915, Parlay 3.

The joint work between 3GPP CN5, ETSI SPAN and the Parlay Call Control Working group with collaboration from JAIN has been focussed on the Multi-party and Multi-Media call control APIs. A number of improvements on call control functionality have been made and are reflected in these APIs. For this it was necessary to break the inheritance that previously existed between Generic and Multi-party call control.

The joint call control group has furthermore decided that the multi-party call control is to be considered as the future base call control family and the technical work will not be continued on Generic Call control. Errors or technical flaws will of course be corrected.

## 4.1 Call Model Description

The call model used for the Call Control SCFs has the following objects:

- A call object. A call is a relation between a number of parties. The call object relates to the entire call view from the application. E.g. the entire call will be released when a release is called on the call. Note that different applications can have different views on the same physical call, e.g. one application for the originating side and another application for the terminating side. The applications will not be aware of each other, all 'communication' between the applications will be by means of network signalling. The API currently does not specify any feature interaction mechanisms.
- A call leg object. The leg object represents a logical association between a call and an address. The relationship includes at least the signalling relation with the party. The relation with the address is only made when the leg is routed. Before that the leg object is IDLE and not yet associated with the address.
- An address. The address logically represents a party in the call.
- A terminal. A terminal is the end-point of the signalling and/or media for a party. This object type is currently not addressed.

The call object is used to establish a relation between a number of parties by creating a leg for each party within the call.

Associated with the signalling relationship represented by the call leg, there may also be a bearer connection (e.g. in the traditional voice only networks) or a number (zero or more) of media channels (in multi-media networks).

A leg can be attached to the call or detached from the call. When the leg is attached, this means that media or bearer channels related to the legs are connected to the media or bearer channels of the other legs that are attached to the same call. I.e. only legs that are attached can 'speak' to each other. A leg can have a number of states, depending on the signalling received from or sent to the party associated with the leg. Usually there is a limit to the number of legs that are in being routed (i.e. the connection is being established) or connected to the call (i.e. the connection is established). Also, there usually is a limit to the number of legs that can be simultaneously attached to the same call.

Some networks distinguish between controlling and passive legs. By definition the call will be released when the controlling leg is released. All other legs are called passive legs. There can be at most one controlling leg per call. However, there is currently no way the application can influence whether a Leg is controlling or not.

There are two ways for an application to get the control of a call. The application can request to be notified of calls that meet certain criteria. When a call occurs in the network that meets these criteria, the application is notified and can control the call. Some legs will already be associated with the call in this case. Another way is to create a new call from the application.

## 4.2 Structure of Call Control SCF Documentation

Each of the Call Control SCFs is specified under the following headings:

- 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 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 ES 202 915-2.

## 4.3 General requirements on support of methods

An implementation of one of the call control APIs which supports or implements a method described in one of the sub-parts of ES 202 915-4, 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.

Where a method is not supported by an implementation of an Application interface, a call to that method shall be possible, and no exception shall be returned.

---

# 5 The Service Interface Specifications

## 5.1 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.

### 5.1.1 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>`.

### 5.1.2 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.

### 5.1.3 Parameter descriptions

Each method parameter and its possible values are described. Parameters described as 'in' represent those that must have a value when the method is called. Those described as 'out' are those that contain the return result of the method when the method returns.

### 5.1.4 State Model

If relevant, a state model is shown to illustrate the states of the objects that implement the described interface.

## 5.2 Base Interface

### 5.2.1 Interface Class `IpInterface`

All application, framework and service interfaces inherit from the following interface. This API Base Interface does not provide any additional methods.

|                              |
|------------------------------|
| <<Interface>><br>IpInterface |
|                              |
|                              |

## 5.3 Service Interfaces

### 5.3.1 Overview

The Service Interfaces provide the interfaces into the capabilities of the underlying network - such as call control, user interaction, messaging, mobility and connectivity management.

The interfaces that are implemented by the services are denoted as 'Service Interface'. The corresponding interfaces that must be implemented by the application (e.g. for API callbacks) are denoted as 'Application Interface'.

## 5.4 Generic Service Interface

### 5.4.1 Interface Class IpService

Inherits from: IpInterface;

All service interfaces inherit from the following interface.

|                                                                                                                                                         |
|---------------------------------------------------------------------------------------------------------------------------------------------------------|
| <<Interface>><br>IpService                                                                                                                              |
|                                                                                                                                                         |
| setCallback (appInterface : in IpInterfaceRef) : void<br>setCallbackWithSessionID (appInterface : in IpInterfaceRef, sessionID : in TpSessionID) : void |

#### 5.4.1.1 Method setCallback()

This method specifies the reference address of the callback interface that a service uses to invoke methods on the application. It is not allowed to invoke this method on an interface that uses SessionIDs.

##### *Parameters*

##### **appInterface : in IpInterfaceRef**

Specifies a reference to the application interface, which is used for callbacks.

##### *Raises*

**TpCommonExceptions, P\_INVALID\_INTERFACE\_TYPE**

### 5.4.1.2 Method setCallbackWithSessionID()

This method specifies the reference address of the application's callback interface that a service uses for interactions associated with a specific session ID: e.g. a specific call, or call leg. It is not allowed to invoke this method on an interface that does not use SessionIDs.

#### Parameters

##### **appInterface: in IpInterfaceRef**

Specifies a reference to the application interface, which is used for callbacks.

##### **sessionID: in TpSessionID**

Specifies the session for which the service can invoke the application's callback interface.

#### Raises

**TpCommonExceptions, P\_INVALID\_SESSION\_ID, P\_INVALID\_INTERFACE\_TYPE**

---

## 6 Common Call Control Data Types

The following data types referenced in this clause are defined in ES 202 915-5:

#### TpUIInfo

All other data types referenced in the present document but not defined in this clause are common data definitions which may be found in ES 202 915-2.

### 6.1 TpCallAlertingMechanism

This data type is identical to a TpInt32, and defines the mechanism that will be used to alert a call party. The values of this data type are operator specific.

### 6.2 TpCallBearerService

This data type defines the type of call application-related specific information (ITU-T Recommendation Q.931: Information Transfer Capability, and TS 122 002).

| Name                                           | Value | Description                                               |
|------------------------------------------------|-------|-----------------------------------------------------------|
| P_CALL_BEARER_SERVICE_UNKNOWN                  | 0     | Bearer capability information unknown at this time        |
| P_CALL_BEARER_SERVICE_SPEECH                   | 1     | Speech                                                    |
| P_CALL_BEARER_SERVICE_DIGITALUNRESTRICTED      | 2     | Unrestricted digital information                          |
| P_CALL_BEARER_SERVICE_DIGITALRESTRICTED        | 3     | Restricted digital information                            |
| P_CALL_BEARER_SERVICE_AUDIO                    | 4     | 3,1 kHz audio                                             |
| P_CALL_BEARER_SERVICE_DIGITALUNRESTRICTEDTONES | 5     | Unrestricted digital information with tones/announcements |
| P_CALL_BEARER_SERVICE_VIDEO                    | 6     | Video                                                     |

## 6.3 TpCallChargePlan

Defines the Sequence of Data Elements that specify the charge plan for the call.

| Sequence Element Name       | Sequence Element Type             | Description                                                                                                                                                                                                                              |
|-----------------------------|-----------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ChargeOrderType             | TpCallChargeOrderCategory         | Charge order                                                                                                                                                                                                                             |
| TransparentCharge           | TpOctetSet                        | Operator specific charge plan specification, e.g. charging table name / charging table entry. The associated charge plan data will be sent transparently to the charging records. Only applicable when transparent charging is selected. |
| ChargePlan                  | TpInt32                           | Pre-defined charge plan. Example of the charge plan set from which the application can choose could be : (0 = normal user, 1 = silver card user, 2 = gold card user). Only applicable when predefined charge plan is selected.           |
| AdditionalInfo              | TpOctetSet                        | Descriptive string which is sent to the billing system without prior evaluation. Could be included in the ticket.                                                                                                                        |
| PartyToCharge               | TpCallPartyToChargeType           | Identifies the entity or party to be charged for the call or call leg.                                                                                                                                                                   |
| PartyToChargeAdditionalInfo | TpCallPartyToChargeAdditionalInfo | Contains additional information regarding the charged party.                                                                                                                                                                             |

## 6.4 TpCallPartyToChargeAdditionalInfo

Defines the Tagged Choice of Data Elements that identifies the entity or party to be charged.

|  | Tag Element Type        |  |
|--|-------------------------|--|
|  | TpCallPartyToChargeType |  |

| Tag Element Value        | Choice Element Type | Choice Element Name |
|--------------------------|---------------------|---------------------|
| P_CALL_PARTY_ORIGINATING | NULL                | Undefined           |
| P_CALL_PARTY_DESTINATION | NULL                | Undefined           |
| P_CALL_PARTY_SPECIAL     | TpAddress           | CallPartySpecial    |

## 6.5 TpCallPartyToChargeType

Defines the type of call party to charge.

| Name                     | Value | Description                                                                                                                   |
|--------------------------|-------|-------------------------------------------------------------------------------------------------------------------------------|
| P_CALL_PARTY_ORIGINATING | 0     | Calling party, i.e. party that initiated the call. For application initiated calls this indicates the first party of the call |
| P_CALL_PARTY_DESTINATION | 1     | Called party                                                                                                                  |
| P_CALL_PARTY_SPECIAL     | 2     | An address identifying e.g. a third party, a service provider                                                                 |

## 6.6 TpCallChargeOrderCategory

Defines the type of charging to be applied.

| Name                         | Value | Description                                                                                                                                                                      |
|------------------------------|-------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| P_CALL_CHARGE_TRANSPARENT    | 0     | Operator specific charge plan specification, e.g. charging table name / charging table entry. The associated charge plan data will be send transparently to the charging records |
| P_CALL_CHARGE_PREDEFINED_SET | 1     | Pre-defined charge plan. Example of the charge plan set from which the application can choose could be :<br>(0 = normal user, 1 = silver card user, 2 = gold card user).         |

## 6.7 TpCallEndedReport

Defines the Sequence of Data Elements that specify the reason for the call ending.

| Sequence Element Name | Sequence Element Type | Description                                                                                                                        |
|-----------------------|-----------------------|------------------------------------------------------------------------------------------------------------------------------------|
| CallLegSessionID      | TpSessionID           | The leg that initiated the release of the call.<br>If the call release was not initiated by the leg, then this value is set to -1. |
| Cause                 | TpReleaseCause        | The cause of the call ending.                                                                                                      |

## 6.8 TpCallError

Defines the Sequence of Data Elements that specify the additional information relating to a call error.

| Sequence Element Name | Sequence Element Type     |
|-----------------------|---------------------------|
| ErrorTime             | TpDateAndTime             |
| ErrorType             | TpCallErrorType           |
| AdditionalErrorInfo   | TpCallAdditionalErrorInfo |

## 6.9 TpCallAdditionalErrorInfo

Defines the Tagged Choice of Data Elements that specify additional call error and call error specific information. This is also used to specify call leg errors and information errors.

|  | Tag Element Type |  |
|--|------------------|--|
|  | TpCallErrorType  |  |

| Tag Element Value                 | Choice Element Type | Choice Element Name     |
|-----------------------------------|---------------------|-------------------------|
| P_CALL_ERROR_UNDEFINED            | NULL                | Undefined               |
| P_CALL_ERROR_INVALID_ADDRESS      | TpAddressError      | CallErrorInvalidAddress |
| P_CALL_ERROR_INVALID_STATE        | NULL                | Undefined               |
| P_CALL_ERROR_RESOURCE_UNAVAILABLE | NULL                | Undefined               |

## 6.10 TpCallErrorType

Defines a specific call error.

| Name                              | Value | Description                                                                      |
|-----------------------------------|-------|----------------------------------------------------------------------------------|
| P_CALL_ERROR_UNDEFINED            | 0     | Undefined; the method failed or was refused, but no specific reason can be given |
| P_CALL_ERROR_INVALID_ADDRESS      | 1     | The operation failed because an invalid address was given                        |
| P_CALL_ERROR_INVALID_STATE        | 2     | The call was not in a valid state for the requested operation                    |
| P_CALL_ERROR_RESOURCE_UNAVAILABLE | 3     | There are not enough resources to complete the request successfully              |

## 6.11 TpCallInfoReport

Defines the Sequence of Data Elements that specify the call information requested. Information that was not requested is invalid.

| Sequence Element Name          | Sequence Element Type | Description                                                                                                                                                                                                                                                                                          |
|--------------------------------|-----------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CallInfoType                   | TpCallInfoType        | The type of call report.                                                                                                                                                                                                                                                                             |
| CallInitiationStartTime        | TpDateAndTime         | The time and date when the call, or follow-on call, was started.                                                                                                                                                                                                                                     |
| CallConnectedToResourceTime    | TpDateAndTime         | The date and time when the call was connected to the resource.<br>This data element is only valid when information on user interaction is reported.                                                                                                                                                  |
| CallConnectedToDestinationTime | TpDateAndTime         | The date and time when the call was connected to the destination (i.e. when the destination answered the call). If the destination did not answer, the time is set to an empty string.<br>This data element is invalid when information on user interaction is reported with an intermediate report. |
| CallEndTime                    | TpDateAndTime         | The date and time when the call or follow-on call or user interaction was terminated.                                                                                                                                                                                                                |
| Cause                          | TpReleaseCause        | The cause of the termination.                                                                                                                                                                                                                                                                        |

A callInfoReport will be generated at the end of user interaction and at the end of the connection with the associated address. This means that either the destination related information is present or the resource related information, but not both.

## 6.12 TpCallInfoType

Defines the type of call information requested and reported. The values may be combined by a logical 'OR' function.

| Name                      | Value | Description         |
|---------------------------|-------|---------------------|
| P_CALL_INFO_UNDEFINED     | 00h   | Undefined           |
| P_CALL_INFO_TIMES         | 01h   | Relevant call times |
| P_CALL_INFO_RELEASE_CAUSE | 02h   | Call release cause  |

## 6.13 TpCallLoadControlMechanism

Defines the Tagged Choice of Data Elements that specify the applied mechanism and associated parameters.

|  | Tag Element Type               |  |
|--|--------------------------------|--|
|  | TpCallLoadControlMechanismType |  |

| Tag Element Value                | Choice Element Type           | Choice Element Name        |
|----------------------------------|-------------------------------|----------------------------|
| P_CALL_LOAD_CONTROL_PER_INTERVAL | TpCallLoadControlIntervalRate | CallLoadControlPerInterval |

## 6.14 TpCallLoadControlIntervalRate

Defines the call admission rate of the call load control mechanism used. This data type indicates the interval (in milliseconds) between calls that are admitted. This data type is identical to a TpInt32.

| Name                               | Value       | Description                                   |
|------------------------------------|-------------|-----------------------------------------------|
| P_CALL_LOAD_CONTROL_ADMIT_NO_CALLS | 0           | Infinite interval<br>(do not admit any calls) |
|                                    | 1 to 60 000 | Duration in milliseconds                      |

## 6.15 TpCallLoadControlMechanismType

Defines the type of call load control mechanism to use.

| Name                             | Value | Description                 |
|----------------------------------|-------|-----------------------------|
| P_CALL_LOAD_CONTROL_PER_INTERVAL | 0     | Admit one call per interval |

## 6.16 TpCallMonitorMode

Defines the mode that the call will monitor for events, or the mode that the call is in following a detected event.

| Name                               | Value | Description                                                                                                                                                                                                                                    |
|------------------------------------|-------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| P_CALL_MONITOR_MODE_INTERRUPT      | 0     | The call event is intercepted by the call control service and call processing is interrupted. The application is notified of the event and call processing resumes following an appropriate API call or network event (such as a call release) |
| P_CALL_MONITOR_MODE_NOTIFY         | 1     | The call event is detected by the call control service but not intercepted. The application is notified of the event and call processing continues                                                                                             |
| P_CALL_MONITOR_MODE_DO_NOT_MONITOR | 2     | Do not monitor for the event                                                                                                                                                                                                                   |

## 6.17 TpCallNetworkAccessType

This data defines the bearer capabilities associated with the call. (TS 124 002) This information is network operator specific and may not always be available because there is no standard protocol to retrieve the information.

| Name                                      | Value | Description                                   |
|-------------------------------------------|-------|-----------------------------------------------|
| P_CALL_NETWORK_ACCESS_TYPE_UNKNOWN        | 0     | Network type information unknown at this time |
| P_CALL_NETWORK_ACCESS_TYPE_POT            | 1     | POTS                                          |
| P_CALL_NETWORK_ACCESS_TYPE_ISDN           | 2     | ISDN                                          |
| P_CALL_NETWORK_ACCESS_TYPE_DIALUPINTERNET | 3     | Dial-up Internet                              |
| P_CALL_NETWORK_ACCESS_TYPE_XDSL           | 4     | xDSL                                          |
| P_CALL_NETWORK_ACCESS_TYPE_WIRELESS       | 5     | Wireless                                      |

## 6.18 TpCallPartyCategory

This data type defines the category of a calling party. (ITU-T Recommendation Q.763: Calling Party Category / Called Party Category).

| Name                               | Value | Description                                   |
|------------------------------------|-------|-----------------------------------------------|
| P_CALL_PARTY_CATEGORY_UNKNOWN      | 0     | calling party's category unknown at this time |
| P_CALL_PARTY_CATEGORY_OPERATOR_F   | 1     | operator, language French                     |
| P_CALL_PARTY_CATEGORY_OPERATOR_E   | 2     | operator, language English                    |
| P_CALL_PARTY_CATEGORY_OPERATOR_G   | 3     | operator, language German                     |
| P_CALL_PARTY_CATEGORY_OPERATOR_R   | 4     | operator, language Russian                    |
| P_CALL_PARTY_CATEGORY_OPERATOR_S   | 5     | operator, language Spanish                    |
| P_CALL_PARTY_CATEGORY_ORDINARY_SUB | 6     | ordinary calling subscriber                   |
| P_CALL_PARTY_CATEGORY_PRIORITY_SUB | 7     | calling subscriber with priority              |
| P_CALL_PARTY_CATEGORY_DATA_CALL    | 8     | data call (voice band data)                   |
| P_CALL_PARTY_CATEGORY_TEST_CALL    | 9     | test call                                     |
| P_CALL_PARTY_CATEGORY_PAYPHONE     | 10    | payphone                                      |

## 6.19 TpCallServiceCode

Defines the Sequence of Data Elements that specify the service code and type of service code received during a call. The service code type defines how the value string should be interpreted.

| Sequence Element Name | Sequence Element Type |
|-----------------------|-----------------------|
| CallServiceCodeType   | TpCallServiceCodeType |
| ServiceCodeValue      | TpString              |

## 6.20 TpCallServiceCodeSet

Defines a Numbered Set of Data Elements of TpCallServiceCode.

## 6.21 TpCallServiceCodeType

Defines the different types of service codes that can be received during the call.

| Name                          | Value | Description                                                                                                                                                 |
|-------------------------------|-------|-------------------------------------------------------------------------------------------------------------------------------------------------------------|
| P_CALL_SERVICE_CODE_UNDEFINED | 0     | The type of service code is unknown. The corresponding string is operator specific.                                                                         |
| P_CALL_SERVICE_CODE_DIGITS    | 1     | The user entered a digit sequence during the call. The corresponding string is an ASCII representation of the received digits.                              |
| P_CALL_SERVICE_CODE_FACILITY  | 2     | A facility information element is received. The corresponding string contains the facility information element as defined in ITU-T Recommendation Q.932.    |
| P_CALL_SERVICE_CODE_U2U       | 3     | A user-to-user message was received. The associated string contains the content of the user-to-user information element.                                    |
| P_CALL_SERVICE_CODE_HOOKFLASH | 4     | The user performed a hookflash, optionally followed by some digits. The corresponding string is an ASCII representation of the entered digits.              |
| P_CALL_SERVICE_CODE_RECALL    | 5     | The user pressed the register recall button, optionally followed by some digits. The corresponding string is an ASCII representation of the entered digits. |

## 6.22 TpCallSuperviseReport

Defines the responses from the call control service for calls that are supervised. The values may be combined by a logical 'OR' function.

| Name                          | Value | Description                                                                                                                                                                     |
|-------------------------------|-------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| P_CALL_SUPERVISE_TIMEOUT      | 01h   | The call supervision timer has expired.                                                                                                                                         |
| P_CALL_SUPERVISE_CALL_ENDED   | 02h   | The call has ended, either due to timer expiry or call party release. In case the called party disconnects but a follow-on call can still be made also this indication is used. |
| P_CALL_SUPERVISE_TONE_APPLIED | 04h   | A warning tone has been applied. This is only sent in combination with P_CALL_SUPERVISE_TIMEOUT                                                                                 |
| P_CALL_SUPERVISE_UI_FINISHED  | 08h   | The user interaction has finished.                                                                                                                                              |

## 6.23 TpCallSuperviseTreatment

Defines the treatment of the call by the call control service when the call supervision timer expires. The values may be combined by a logical 'OR' function.

| Name                        | Value | Description                                                                                                                                                                                             |
|-----------------------------|-------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| P_CALL_SUPERVISE_RELEASE    | 01h   | Release the call when the call supervision timer expires                                                                                                                                                |
| P_CALL_SUPERVISE_RESPOND    | 02h   | Notify the application when the call supervision timer expires                                                                                                                                          |
| P_CALL_SUPERVISE_APPLY_TONE | 04h   | Send a warning tone to the originating party when the call supervision timer expires. If call release is requested, then the call will be released following the tone after an administered time period |

## 6.24 TpCallTeleService

This data type defines the tele-service associated with the call. (ITU-T Recommendation Q.763: User Teleservice Information, ITU-T Recommendation Q.931: High Layer Compatibility Information, and TS 122 003).

| Name                                 | Value | Description                                                                               |
|--------------------------------------|-------|-------------------------------------------------------------------------------------------|
| P_CALL_TELE_SERVICE_UNKNOWN          | 0     | Teleservice information unknown at this time                                              |
| P_CALL_TELE_SERVICE_TELEPHONY        | 1     | Telephony                                                                                 |
| P_CALL_TELE_SERVICE_FAX_2_3          | 2     | Facsimile Group 2/3                                                                       |
| P_CALL_TELE_SERVICE_FAX_4_I          | 3     | Facsimile Group 4, Class I                                                                |
| P_CALL_TELE_SERVICE_FAX_4_II_III     | 4     | Facsimile Group 4, Classes II and III                                                     |
| P_CALL_TELE_SERVICE_VIDEOTEX_SYN     | 5     | Syntax based Videotex                                                                     |
| P_CALL_TELE_SERVICE_VIDEOTEX_INT     | 6     | International Videotex interworking via gateways or interworking units                    |
| P_CALL_TELE_SERVICE_TELEX            | 7     | Telex service                                                                             |
| P_CALL_TELE_SERVICE_MHS              | 8     | Message Handling Systems                                                                  |
| P_CALL_TELE_SERVICE_OSI              | 9     | OSI application                                                                           |
| P_CALL_TELE_SERVICE_FTAM             | 10    | FTAM application                                                                          |
| P_CALL_TELE_SERVICE_VIDEO            | 11    | Videotelephony                                                                            |
| P_CALL_TELE_SERVICE_VIDEO_CONF       | 12    | Videoconferencing                                                                         |
| P_CALL_TELE_SERVICE_AUDIOGRAPH_CONF  | 13    | Audiographic conferencing                                                                 |
| P_CALL_TELE_SERVICE_MULTIMEDIA       | 14    | Multimedia services                                                                       |
| P_CALL_TELE_SERVICE_CS_INI_H221      | 15    | Capability set of initial channel of ITU-T Recommendation H.221                           |
| P_CALL_TELE_SERVICE_CS_SUB_H221      | 16    | Capability set of subsequent channel of ITU-T Recommendation H.221                        |
| P_CALL_TELE_SERVICE_CS_INI_CALL      | 17    | Capability set of initial channel associated with an active 3,1 kHz audio or speech call. |
| P_CALL_TELE_SERVICE_DATATRAFFIC      | 18    | Data traffic.                                                                             |
| P_CALL_TELE_SERVICE_EMERGENCY_CALLS  | 19    | Emergency Calls                                                                           |
| P_CALL_TELE_SERVICE_SMS_MT_PP        | 20    | Short message MT/PP                                                                       |
| P_CALL_TELE_SERVICE_SMS_MO_PP        | 21    | Short message MO/PP                                                                       |
| P_CALL_TELE_SERVICE_CELL_BROADCAST   | 22    | Cell Broadcast Service                                                                    |
| P_CALL_TELE_SERVICE_ALT_SPEECH_FAX_3 | 23    | Alternate speech and facsimile group 3                                                    |
| P_CALL_TELE_SERVICE_AUTOMATIC_FAX_3  | 24    | Automatic Facsimile group 3                                                               |
| P_CALL_TELE_SERVICE_VOICE_GROUP_CALL | 25    | Voice Group Call Service                                                                  |
| P_CALL_TELE_SERVICE_VOICE_BROADCAST  | 26    | Voice Broadcast Service                                                                   |

## 6.25 TpCallTreatment

Defines the Sequence of Data Elements that specify the treatment for calls that will be handled only by the network (for example, call which are not admitted by the call load control mechanism).

| Sequence Element Name   | Sequence Element Type         |
|-------------------------|-------------------------------|
| CallTreatmentType       | TpCallTreatmentType           |
| ReleaseCause            | TpReleaseCause                |
| AdditionalTreatmentInfo | TpCallAdditionalTreatmentInfo |

## 6.26 TpCallTreatmentType

Defines the treatment for calls that will be handled only by the network.

| Name                     | Value | Description                                                              |
|--------------------------|-------|--------------------------------------------------------------------------|
| P_CALL_TREATMENT_DEFAULT | 0     | Default treatment                                                        |
| P_CALL_TREATMENT_RELEASE | 1     | Release the call                                                         |
| P_CALL_TREATMENT_SIAR    | 2     | Send information to the user, and release the call (Send Info & Release) |

## 6.27 TpCallAdditionalTreatmentInfo

Defines the Tagged Choice of Data Elements that specify the information to be sent to a call party.

|  | Tag Element Type    |  |
|--|---------------------|--|
|  | TpCallTreatmentType |  |

| Tag Element Value        | Choice Element Type | Choice Element Name |
|--------------------------|---------------------|---------------------|
| P_CALL_TREATMENT_DEFAULT | NULL                | Undefined           |
| P_CALL_TREATMENT_RELEASE | NULL                | Undefined           |
| P_CALL_TREATMENT_SJAR    | TpUIInfo            | InformationToSend   |

## 6.28 TpMediaType

Defines the media type of a media stream. The values may be combined by a logical 'OR' function.

| Name    | Value | Description              |
|---------|-------|--------------------------|
| P_AUDIO | 1     | Audio stream             |
| P_VIDEO | 2     | Video stream             |
| P_DATA  | 4     | Data stream (e.g. T.120) |

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## Annex A (normative): OMG IDL Description of Common Call Control Data Types

The OMG IDL representation of this interface specification is contained in a text file (`common_cc_data.idl` contained in archive `es_2029150401v010301p0.zip`) which accompanies the present document.

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## Annex B (informative): W3C WSDL Description of Common Call Control Data Types

The W3C WSDL representation of this interface specification is contained in a text file (common\_cc\_data.wsdl contained in archive es\_2029150401v010301p0.zip) which accompanies the present document.

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## Annex C (informative): Java™ API Description of the Call Control SCFs

The Java™ API realisation of this interface specification is produced in accordance with the Java™ Realisation rules defined in ES 202 915-1. These rules aim to deliver for Java™, a developer API, provided as a realisation, supporting a Java™ API that represents the UML specifications. The rules support the production of both J2SE™ and J2EE™ versions of the API from the common UML specifications.

The J2SE™ representation of this interface specification is provided as Java™ Code, contained in archive 20291504-1J2SE.zip.

The J2EE™ representation of this interface specification is provided as Java™ Code, contained in archive 20291504-1J2EE.zip.

Both these archives can be found in es\_2029150401v010301p0.zip which accompanies the present document.

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## Annex D (informative): Contents of 3GPP OSA Rel-5 Call Control

All items in the present document are relevant for TS 129 198-4-1 V5 (Release 5).

## Annex E (informative): Record of changes

The following is a list of the changes made to the present document for each release. The list contains the names of all changed, deprecated, added or removed items in the specifications and not the actual changes. Any type of change information that is important to the reader is put in the final clause of this annex.

Changes are specified as changes to the prior major release, but every minor release will have its own part of the table allowing the reader to know when the actual change was made.

### E.1 Interfaces

#### E.1.1 New

| Identifier                                                    | Comments |
|---------------------------------------------------------------|----------|
| Interfaces added in ES 202 915-4-1 version 1.1.1 (Parlay 4.0) |          |
|                                                               |          |
| Interfaces added in ES 202 915-4-1 version 1.2.1 (Parlay 4.1) |          |
|                                                               |          |
| Interfaces added in ES 202 915-4-1 version 1.3.1 (Parlay 4.2) |          |
|                                                               |          |

#### E.1.2 Deprecated

| Identifier                                                         | Comments |
|--------------------------------------------------------------------|----------|
| Interfaces deprecated in ES 202 915-4-1 version 1.1.1 (Parlay 4.0) |          |
|                                                                    |          |
| Interfaces deprecated in ES 202 915-4-1 version 1.2.1 (Parlay 4.1) |          |
|                                                                    |          |
| Interfaces deprecated in ES 202 915-4-1 version 1.3.1 (Parlay 4.2) |          |
|                                                                    |          |

#### E.1.3 Removed

| Identifier                                                      | Comments |
|-----------------------------------------------------------------|----------|
| Interfaces removed in ES 202 915-4-1 version 1.1.1 (Parlay 4.0) |          |
|                                                                 |          |
| Interfaces removed in ES 202 915-4-1 version 1.2.1 (Parlay 4.1) |          |
|                                                                 |          |
| Interfaces removed in ES 202 915-4-1 version 1.3.1 (Parlay 4.2) |          |
|                                                                 |          |

## E.2 Methods

### E.2.1 New

| Identifier                                                 | Comments |
|------------------------------------------------------------|----------|
| Methods added in ES 202 915-4-1 version 1.1.1 (Parlay 4.0) |          |
|                                                            |          |
| Methods added in ES 202 915-4-1 version 1.2.1 (Parlay 4.1) |          |
|                                                            |          |
| Methods added in ES 202 915-4-1 version 1.3.1 (Parlay 4.2) |          |
|                                                            |          |

### E.2.2 Deprecated

| Identifier                                                      | Comments |
|-----------------------------------------------------------------|----------|
| Methods deprecated in ES 202 915-4-1 version 1.1.1 (Parlay 4.0) |          |
|                                                                 |          |
| Methods deprecated in ES 202 915-4-1 version 1.2.1 (Parlay 4.1) |          |
|                                                                 |          |
| Methods deprecated in ES 202 915-4-1 version 1.3.1 (Parlay 4.2) |          |
|                                                                 |          |

### E.2.3 Modified

| Identifier                                                    | Comments |
|---------------------------------------------------------------|----------|
| Methods modified in ES 202 915-4-1 version 1.1.1 (Parlay 4.0) |          |
|                                                               |          |
| Methods modified in ES 202 915-4-1 version 1.2.1 (Parlay 4.1) |          |
|                                                               |          |
| Methods modified in ES 202 915-4-1 version 1.3.1 (Parlay 4.2) |          |
|                                                               |          |

### E.2.4 Removed

| Identifier                                                   | Comments |
|--------------------------------------------------------------|----------|
| Methods removed in ES 202 915-4-1 version 1.1.1 (Parlay 4.0) |          |
|                                                              |          |
| Methods removed in ES 202 915-4-1 version 1.2.1 (Parlay 4.1) |          |
|                                                              |          |
| Methods removed in ES 202 915-4-1 version 1.3.1 (Parlay 4.2) |          |
|                                                              |          |

## E.3 Data Definitions

### E.3.1 New

| Identifier                                                          | Comments |
|---------------------------------------------------------------------|----------|
| Data Definitions added in ES 202 915-4-1 version 1.1.1 (Parlay 4.0) |          |
|                                                                     |          |
| Data Definitions added in ES 202 915-4-1 version 1.2.1 (Parlay 4.1) |          |
|                                                                     |          |
| Data Definitions added in ES 202 915-4-1 version 1.3.1 (Parlay 4.2) |          |
|                                                                     |          |

### E.3.2 Modified

| Identifier                                                             | Comments |
|------------------------------------------------------------------------|----------|
| Data Definitions modified in ES 202 915-4-1 version 1.1.1 (Parlay 4.0) |          |
|                                                                        |          |
| Data Definitions modified in ES 202 915-4-1 version 1.2.1 (Parlay 4.1) |          |
|                                                                        |          |
| Data Definitions modified in ES 202 915-4-1 version 1.3.1 (Parlay 4.2) |          |
|                                                                        |          |

### E.3.3 Removed

| Identifier                                                            | Comments |
|-----------------------------------------------------------------------|----------|
| Data Definitions removed in ES 202 915-4-1 version 1.1.1 (Parlay 4.0) |          |
|                                                                       |          |
| Data Definitions removed in ES 202 915-4-1 version 1.2.1 (Parlay 4.1) |          |
| TpCallChargeOrder                                                     | Not Used |
| Data Definitions removed in ES 202 915-4-1 version 1.3.1 (Parlay 4.2) |          |
|                                                                       |          |

## E.4 Service Properties

### E.4.1 New

| Identifier                                                            | Comments |
|-----------------------------------------------------------------------|----------|
| Service Properties added in ES 202 915-4-1 version 1.1.1 (Parlay 4.0) |          |
|                                                                       |          |
| Service Properties added in ES 202 915-4-1 version 1.2.1 (Parlay 4.1) |          |
|                                                                       |          |
| Service Properties added in ES 202 915-4-1 version 1.3.1 (Parlay 4.2) |          |
|                                                                       |          |

## E.4.2 Deprecated

| Identifier                                                                 | Comments |
|----------------------------------------------------------------------------|----------|
| Service Properties deprecated in ES 202 915-4-1 version 1.1.1 (Parlay 4.0) |          |
|                                                                            |          |
| Service Properties deprecated in ES 202 915-4-1 version 1.2.1 (Parlay 4.1) |          |
|                                                                            |          |
| Service Properties deprecated in ES 202 915-4-1 version 1.3.1 (Parlay 4.2) |          |
|                                                                            |          |

## E.4.3 Modified

| Identifier                                                               | Comments |
|--------------------------------------------------------------------------|----------|
| Service Properties modified in ES 202 915-4-1 version 1.1.1 (Parlay 4.0) |          |
|                                                                          |          |
| Service Properties modified in ES 202 915-4-1 version 1.2.1 (Parlay 4.1) |          |
|                                                                          |          |
| Service Properties modified in ES 202 915-4-1 version 1.3.1 (Parlay 4.2) |          |
|                                                                          |          |

## E.4.4 Removed

| Identifier                                                              | Comments |
|-------------------------------------------------------------------------|----------|
| Service Properties removed in ES 202 915-4-1 version 1.1.1 (Parlay 4.0) |          |
|                                                                         |          |
| Service Properties removed in ES 202 915-4-1 version 1.2.1 (Parlay 4.1) |          |
|                                                                         |          |
| Service Properties removed in ES 202 915-4-1 version 1.3.1 (Parlay 4.2) |          |
|                                                                         |          |

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## E.5 Exceptions

### E.5.1 New

| Identifier                                                    | Comments |
|---------------------------------------------------------------|----------|
| Exceptions added in ES 202 915-4-1 version 1.1.1 (Parlay 4.0) |          |
|                                                               |          |
| Exceptions added in ES 202 915-4-1 version 1.2.1 (Parlay 4.1) |          |
|                                                               |          |
| Exceptions added in ES 202 915-4-1 version 1.3.1 (Parlay 4.2) |          |
|                                                               |          |

## E.5.2 Modified

| Identifier                                                       | Comments |
|------------------------------------------------------------------|----------|
| Exceptions modified in ES 202 915-4-1 version 1.1.1 (Parlay 4.0) |          |
|                                                                  |          |
| Exceptions modified in ES 202 915-4-1 version 1.2.1 (Parlay 4.1) |          |
|                                                                  |          |
| Exceptions modified in ES 202 915-4-1 version 1.3.1 (Parlay 4.2) |          |
|                                                                  |          |

## E.5.3 Removed

| Identifier                                                      | Comments |
|-----------------------------------------------------------------|----------|
| Exceptions removed in ES 202 915-4-1 version 1.1.1 (Parlay 4.0) |          |
|                                                                 |          |
| Exceptions removed in ES 202 915-4-1 version 1.2.1 (Parlay 4.1) |          |
|                                                                 |          |
| Exceptions removed in ES 202 915-4-1 version 1.3.1 (Parlay 4.2) |          |
|                                                                 |          |

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## E.6 Others

New annex C added, together with J2EE™ and J2SE™ Java™ code, replacing existing annex C.

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## History

| Document history |              |                                                                          |
|------------------|--------------|--------------------------------------------------------------------------|
| V1.1.1           | January 2003 | Publication                                                              |
| V1.2.1           | August 2003  | Publication                                                              |
| V1.3.1           | January 2005 | Membership Approval Procedure      MV 20050304: 2005-01-04 to 2005-03-04 |
| V1.3.1           | March 2005   | Publication                                                              |
|                  |              |                                                                          |