Linux-based Mobile Phone Middleware

Application Programming Interface

Circuit-Switched Communication Service

Document: CELF_MPP_CS_D_2.2.6_20060706

WARNING: This is a working draft for review only, it is NOT a published specification of the CE Linux Forum. It is likely that further substantial changes will be made in the course of review and issue resolution. Send comments on this version to:

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Revision History

Revision	Comment	Reviewer	Editor	Date
2.2	Initial	F2F meeting	NEC/Panasonic	05/09/28
2.2.1	Editorial Changes		AK	05/10/03
2.2.1a	NEC comments	NEC	AK	05/11/08
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0. Introduction

Circuit-Switched Communication Service (CS Service) has the function of the call control, the call state management, the tone control and the log processing.

Circuit-Switched Communication Service includes

Voice communication service,

Video communication service, and

Digital data communication service.

0.1 References

0.1.1 Normative

RFC 2119: “Key words for use in RFCs to Indicate Requirement Levels”, S. Bradner, March 1997, URL:http://www.ietf.org/rfc/rfc2119.txt

RFC 2234: “Augmented BNF for Syntax Specifications: ABNF”. D. Crocker, Ed., P. Overell. November 1997, URL:http://www.ietf.org/rfc/rfc2234.txt

0.1.2 Informative

1. Primitives

This section contains the definitions of the data types and constants used in the interfaces of this service.

1.1 Constants

1.1.1 Line type (int)

CELF_MP_CS_LINE_CDMA1	CDMA1
CELF_MP_CS_LINE_UMTS	UMTS
CELF_MP_CS_LINE_FOMA	FOMA
CELF_MP_CS_LINE_GSM	GSM
CELF_MP_CS_LINE_WLAN	WLAN
CELF_MP_CS_LINE_BLUET	BLUET

The constants denote several different forms of wireless connectivity. Currently the first 3 are supported by this specification.

1.1.2 Dial Number

Dial number length of the other party

This data is valid when this mobile phone originates a call.

Definition:

CELF_MP_CS_DIAL_MAX	45

1.1.3 TAF address

TAF address is the connection ID in TAF (Terminal Adaptation Function).

This is external to the CELF MPP specification.

See the following documents for further details: 3GPP TS 27.001 / 3GPP TS 24.002

1.1.4 Additional Service

Service Info Name Length

Definition:

CELF_SRVINFO_TITLE	21

Dial data length for accessing the service

Definition:

CELF_SRVINFO_DATA	40

Response Message Name Length

Definition:

CELF_RESMSG_TITLE 21

Response data length for accessing the service

Definition:

CELF_RESMSG_DATA 40

1.2 Enums

1.2.1 Voice communication status (CelfMpCsComStatus)

In this operation mode, following multiple calls can be handled by a mobile phone, simultaneously. Each state of handling calls is:

- Holding a receiving call
- Talk over the phone
- Receive another incoming call

The number of handling states is three.

This is called the multiple calls.

In case that one call is AV call, the mobile phone handles this call only.

1.2.1.1 Condition: only one call

CELF_MP_CS_COM_STATUS_WAIT : Standby

CELF_MP_CS_COM_STATUS_IN : Incoming call

CELF_MP_CS_COM_STATUS_OUT : Outgoing call

CELF_MP_CS_COM_STATUS_CALL_ALERT : Calling

CELF_MP_CS_COM_STATUS_TALK : In conversation

CELF_MP_CS_COM_STATUS_HOLD : In hold

This status is

(a) that incoming call was received, and

(b) that this incoming call cannot transit to conversation status because of the mobile phone.

CELF_MP_CS_COM_STATUS_DISCONNECT : Disconnecting

1.2.1.2 Condition: two call

One call is in conversation, and another call is in some status.

CELF_MP_CS_COM_STATUS_2ND_IN : In conversation and incoming

CELF_MP_CS_COM_STATUS_2ND_OUT : In conversation and outgoing

CELF_MP_CS_COM_STATUS_2ND_TALK : In conversation and calling

CELF_MP_CS_COM_STATUS_2ND_HOLD : In conversation and hold

CELF_MP_CS_COM_STATUS_2ND_DISCONNECT : In conversation and disconnecting

- three call One call is in conversation, another call is in hold, and 3rd call is in incoming.

CELF_MP_CS_COM_STATUS_2ND_HOLD_IN : In conversation, hold, and incoming

1.2.1.3 Condition: only one AV call

CELF_MP_CS_COM_STATUS_AV_IN : Incoming AV call

CELF_MP_CS_COM_STATUS_AV_OUT : Outgoing AV call

CELF_MP_CS_COM_STATUS_AV_CALL_ALERT : Calling AV call

CELF_MP_CS_COM_STATUS_AV_TALK : In conversation

CELF_MP_CS_COM_STATUS_AV_HOLD : In hold

CELF_MP_CS_COM_STATUS_AV_DISCONNECT : Disconnecting an AV call

Other combinations of voice communication calls are not defined.

1.2.2 Forwarding result (CelfMpCsFwResult)

CELF_MP_CS_OK : Successful forwarding

CELF_MP_CS_ERR : Forwarding failure

1.2.3 Forwarding result details (CelfMpCsFwError)

Set only at forwarding failure.

CELF_MP_CS_FW_ERROR_NO_JOIN : Service is not contracted.

CELF_MP_CS_FW_ERROR_NO_SETDATA : the forwarded destination is not registered.

CELF_MP_CS_FW_ERROR_ETC : Others

1.2.4 Bearer Type (CelfMpCsBtype)

CELF_MP_CS_BTYPE_NONE : None (unfixed)

CELF_MP_CS_BTYPE_ANY : Not Specified

CELF_MP_CS_BTYPE_VOICE : Voice

CELF_MP_CS_BTYPE_UD32 : 32K communication

CELF_MP_CS_BTYPE_UD64 : 64K communication

CELF_MP_CS_BTYPE_AV32 : 32K communication

CELF_MP_CS_BTYPE_AV64 : 64K communication

1.2.5 Call Reference Status (CelfMpCsCallRefStatus)

CELF_MP_CS_USED : Valid ”CN_No” – Connection Number entry.

CELF_MP_CS_UNUSED : “CN_No” – Connection Number is not used.

In some cases the Call reference status is unused, indicated by CELF_MP_CS_UNUSED. If so, there is no connection between this mobile phone and other party and all data is void.

1.2.6 Call Status (CelfMpCsChan)

Call status for this mobile phone

CELF_MP_CS_CHAN_NULL	: Vacant
CELF_MP_CS_CHAN_OFFHK	: Off-hook
CELF_MP_CS_CHAN_OUT	: Outgoing call
CELF_MP_CS_CHAN_CALL_ALERT	: Calling
CELF_MP_CS_CHAN_IN	: Incoming call
CELF_MP_CS_CHAN_REQ_IN	: Response (conversation)

(The status of responding mobile phone is in conversation.)

CELF_MP_CS_CHAN_TALK	: In conversation
CELF_MP_CS_CHAN_REQ_HOLD	: Response (hold)

(The status of responding mobile phone is in hold.)

CELF_MP_CS_CHAN_HOLD	: Hold response
CELF_MP_CS_CHAN_2ND_HOLD	: In conversation and hold
CELF_MP_CS_CHAN_DISCONNECT	: Disconnecting

1.2.7 Existence of continuation data (CelfMpCsContData)

CELF_MP_CS_ON	: valid below data
CELF_MP_CS_OFF	: non valid below data

The following data entries in 1.3.8, from "Calling_Dial" to "cause", is valid data if the call status is incoming or conversation and incoming call.

1.2.8 Busy Tone sound flag (CelfMpCsBusyTone)

Whether Busy Tone (engaged tone) sounds for this phone, or not

CELF_MP_CS_BUSY_TONE_ON	: Busy Tone sounding.
CELF_MP_CS_BUSY_TONE_OFF	: Busy Tone not sounding.

1.2.9 Cause of Calling Line Identity (CLI) not available (CelfMpCsNoCLI)

The reason why the dial number of the other party is not notified.

The dial number of the other party is in "Calling dial" or "Called dial" status.

CELF_MP_CS_NOCLI_NOSRV	: service is not supported.
CELF_MP_CS_NOCLI_BLOCKED	: user blocked the display.
CELF_MP_CS_NOCLI_CONFLICT	: service conflicts.
CELF_MP_CS_NOCLI_PUBLICPHONE	: origination is from a public phone.

This data is valid, when the `unsigned char num_presentation_indicator` is filled.

1.2.10 Dial number / Redirect number display indicator (CelfMpCsPrsntInd)

Whether dial number / redirection number of the other party can be displayed, or not.

CELF_MP_CS_PRSNT_IND_ALLOWED	: Displayable
CELF_MP_CS_PRSNT_IND_RESTRICTED	: Impossible to display
CELF_MP_CS_PRSNT_IND_NOT_AVAILABLE	: Displayable number does not exist.

1.2.11 Signal information (CelfMpCsSignal)

The type of tone of this phone

CELF_MP_CS_SIGNAL_DIAL_TONE_ON	: Dial tone on
CELF_MP_CS_SIGNAL_RINGBACK_TONE_ON	: Ring back tone on
CELF_MP_CS_SIGNAL_INTERCEPT_TONE_ON	: Intercept tone on
CELF_MP_CS_SIGNAL_NW_CONGESTION_TONE_ON	: Network congestion tone on
CELF_MP_CS_SIGNAL_BUSY_TONE_ON	: Busy tone on
CELF_MP_CS_SIGNAL_CONFIRM_TONE_ON	: Confirm tone on
CELF_MP_CS_SIGNAL_ANSWER_TONE_ON	: Answer tone on
CELF_MP_CS_SIGNAL_CALLWAITING_TONE_ON	: Call waiting tone on
CELF_MP_CS_SIGNAL_OFFHK_WARNING_TONE_ON	: Off-hook warning tone on
CELF_MP_CS_SIGNAL_TONES_OFF	: Tones off
CELF_MP_CS_SIGNAL_ALERTING_OFF	: Alerting off
CELF_MP_CS_SIGNAL_NOTSET	: Signal information is not set.

1.2.12 Originating Number notification (CelfMpCsNotice)

Whether the originating dial number is notified or not.

CELF_MP_CS_NOTICE_ON	: Notified
CELF_MP_CS_NOTICE_OFF	: Not notified
CELF_MP_CS_NOTICE_NOSET	: Not set

1.2.13 Line status (CelfMpCsLineStatus)

CELF_MP_CS_LINE_STATUS_OUT	: Out-of-communication area
CELF_MP_CS_LINE_STATUS_IN	: Within-communication area

1.2.14 Normal and emergency originating restriction (CelfMpCsLineRestrictData)

CELF_MP_CS_LINE_RESTRICT_DATA_ON	: With originating restriction

CELF_MP_CS_LINE_RESTRICT_DATA_OFF : Without originating restriction

1.2.15 Receive level (CelfMpCsRSSILevel)

CELF_MP_CS_RSSI_LEVEL_NONE : No reception
CELF_MP_CS_RSSI_LEVEL_LOW : Receive level (Lowest)
CELF_MP_CS_RSSI_LEVEL_MEDIUM1 : Receive level
CELF_MP_CS_RSSI_LEVEL_MEDIUM2 : Receive level
CELF_MP_CS_RSSI_LEVEL_HIGH : Receive level (Highest)

1.2.16 Area status information (CelfMpCsLineCvrStatus)

CELF_MP_CS_LINE_CVR_STATUS_IN : Inside the area
CELF_MP_CS_LINE_CVR_STATUS_OUT : Outside the area

1.2.17 RRC mode (CelfMpCsLineRRCMode)

CELF_MP_CS_LINE_RRC_MODE_IDLE : idle-mode
CELF_MP_CS_LINE_RRC_MODE_UTRAN : utran-connected-mode

1.2.18 Network identification information (CelfMpCsLineNetwork)

CELF_MP_CS_LINE_NETWORK_HOME : home network
CELF_MP_CS_LINE_NETWORK_VISIT : visiting network (roamed)
CELF_MP_CS_LINE_NO_INFORMATION : No network sinformation

1.2.19 Service status (CelfMpLineSrvStatus)

CELF_MP_LINE_SRV_STATUS_CS : CS is in service.
CELF_MP_LINE_SRV_STATUS_PS : PS is in service.
CELF_MP_LINE_SRV_STATUS_CSPS : CS and PS are in service.
CELF_MP_LINE_NO_INFORMATION : No information
CS is the Circuit-Switched Communication Service, and
PS is the Packet-Switched Communication Service.

1.2.20 Restriction status (CelfMpCsLineRestrict)

CELF_MP_CS_LINE_RESTRICT_ON : In traffic restriction
CELF_MP_CS_LINE_RESTRICT_OFF : Out of traffic restriction

1.2.21 Identifying flag (CelfMpCsFlag)

CELF_MP_CS_NO_FLAG : no Flag
CELF_MP_CS_OPT_FLAG : Network Service Option
CELF_MP_CS_USSD_FLAG : USSD

1.2.22 Notification Set (CelfMpCsNotifySet)

CELF_MP_CS_CLASS_COM_STATUS : Voice communication status notification
CELF_MP_CS_CLASS_TLK_TIME : Call duration notification
CELF_MP_CS_CLASS_DISC_CAUSE : Disconnection cause notification
CELF_MP_CS_CLASS_FW_RESULT : Call forwarding result notification
CELF_MP_CS_CLASS_OFFHK_TO : Off-hook originating timeout notification

1.2.23 Event Structure Category

VoiceNotify

1.2.24 Event Structure Subtype

ConnInfo
TelCallTime
DiscCause
FW_Result
OffHk_Trn
DCF_Event_type
AreaInfo
RssiLevel

1.2.25 DCF Event Set (CelfMpCsDCFSet)

CELF_MP_CS_DCF_DISP : Display-related message
CELF_MP_CS_DCF_HISTORY : History-related message
CELF_MP_CS_DCF_TONE1 : Tone 1-related message
CELF_MP_CS_DCF_TONE2 : Tone 2-related message
CELF_MP_CS_DCF_ETC : Other messages
CELF_MP_CS_CLASS_ALL : All notified

1.2.26 Voice message (CelfMpCsRecMsg)

CELF_MP_CS_REC_MSG_START : Start of a voice message

CELF_MP_CS_REC_MSG_STOP : Stop of a voice message

1.2.27 Off Hook Option (CelfMpCsOffHk)

CELF_MP_CS_OFFHK_AUTO : Automatic transmission

CELF_MP_CS_OFFHK_MANUAL : Manual transmission

1.2.28 64K/AV Communication (CelfMpCsUDComStatus)

CELF_MP_CS_UD_STOP : Under stop

CELF_MP_CS_UD_TALK : Under communication

CELF_MP_CS_UD_IN : Under incoming

CELF_MP_CS_UD_OUT : Under outgoing

CELF_MP_CS_UD_DISCONNECT : Under disconnection

CELF_MP_CS_UD_CALL_ALERT : Under calling

CELF_MP_CS_UD_HOLD : Under hold

CELF_MP_CS_UD_ERR : Error in UD communication

1.2.29 AV Communication (CelfMpAVComStatus)

The INTERNAL reference denotes the originating event utilizing the terminal. The EXTERNAL reference denotes the usage of an outside of the terminal originating device.

CELF_MP_CS_AV_INTERNAL_STOP : Under stop

CELF_MP_CS_AV_INTERNAL_TALK : Under communication

CELF_MP_CS_AV_INTERNAL_IN : Under incoming

CELF_MP_CS_AV_INTERNAL_OUT : Under outgoing

CELF_MP_CS_AV_INTERNAL_DISCONNECT : Under disconnection

CELF_MP_CS_AV_INTERNAL_CALL_ALERT : Under calling

CELF_MP_CS_UD_INTERNAL_HOLD : Under hold

CELF_MP_CS_AV_EXTERNAL_STOP : Under stop

CELF_MP_CS_AV_EXTERNAL_TALK : Under communication

CELF_MP_CS_AV_EXTERNAL_IN : Under incoming

CELF_MP_CS_AV_EXTERNAL_OUT : Under outgoing

CELF_MP_CS_AV_EXTERNAL_DISCONNECT : Under disconnection

CELF_MP_CS_AV_EXTERNAL_CALLING_ALERT : Under calling

CELF_MP_CS_UD_EXTERNAL_HOLD : Under hold

CELF_MP_CS_UD_ERR : Error in UD communication

1.2.30 Receive Types (CelfMpCsRcvType)

CELF_MP_CS_RCV_TYPE_COMPETE_TRN : Communication Conflict

CELF_MP_CS_RCV_TYPE_RSV_RETURN : Reestablish held call

CELF_MP_CS_RCV_TYPE_CALL_BACK : Network Call Back

CELF_MP_CS_RCV_TYPE_NORMAL : Normal

CELF_MP_CS_RCV_TYPE_NONE : No Incoming Call

1.2.31 Line Monitoring (CelfMpCsMtype)

CELF_MP_CS_MONITOR_LINE_STATUS : Line status change notification

CELF_MP_CS_MONITOR_RESTRICT : Restriction status change notification

CELF_MP_CS_MONITOR_RSSI : Receive level change notification

CELF_MP_CS_MONITOR_ALL : All notified

1.2.32 Coverage Indicators (CelfMpCsCoverage)

CELF_MP_CS_LINE_STATUS_IN : Within-communication area

CELF_MP_CS_LINE_STATUS_OUT : Out-of-communication area

1.2.33 Incoming Call Selection (CelfMpCallSelect)

CELF_MP_CS_INCOMING_VOICE_ANSWERING : Forward to the phone-answering message

CELF_MP_CS_INCOMING_FORWARD : Forward

CELF_MP_CS_INCOMING_REJECT : Reject (disconnect)

CELF_MP_CS_INCOMING_NORMAL : Receipt of an incoming call (normal incoming)

1.2.34 Optional Registered Number (CelfMpRegNum)

Within a network, optional numbers can be registered to specific services. It is reflected by this index into the list of these numbers.

int CelfMpRegNum : Registration number

1.2.35 Service Data (CelfMpCsSrvData)

char* CelfMpCsSrvData : Pointer to additional service data

1.2.36 Reconnection Tone (CelfMpCsReconnectionTone)

CELF_MP_CS_RECONN_TONE_OFF : Tone OFF

CELF_MP_CS_RECONN_TONE_LOW : Tone ON low tone

CELF_MP_CS_RECONN_TONE_HI : Tone ON high tone

1.2.37 Noise Canceling (CelfMpCsNoiseCancel)

CELF_MP_CS_ON : Noise canceller ON

CELF_MP_CS_OFF : Noise canceller OFF

1.2.38 Call Quality Alarm (CelfMpCsCallQualAlarm)

CELF_MP_CS_CALL_QUALITY_ALM_OFF : Quality alarm OFF

CELF_MP_CS_CALL_QUALITY_ALM_LOW : Quality alarm ON low tone

CELF_MP_CS_CALL_QUALITY_ALM_HI : Quality alarm ON high tone

1.2.39 Connection Priority Setting (CelfMpCsHiPrioCom)

CELF_MP_CS_COMPRI_NONE : No setting

CELF_MP_CS_COMPRI_VOICE : Voice

CELF_MP_CS_COMPRI_PACKET : Packet

1.2.40 Message Sound Settings (CelfMpCsVmSound)

CELF_MP_CS_ON : Message sound ON

CELF_MP_CS_OFF : Message sound OFF

1.2.41 Incoming Call Auto Receive (CelfMpCsAutoRcv)

CELF_MP_CS_ON : Automatic incoming call ON

CELF_MP_CS_OFF : Automatic incoming call OFF

1.3 Data Types and Structures

1.3.1 Circuit switched status notification event structure

In this sub-section, the associated data structure is CelfMpEvent with the following values:

category = VoiceNotify;

subtype = ConnInfo;

The value of field “info” is from enum CelfMpCsComStatus.

The field “data” carries:

```
CelfMpCsResChgInf    res_chg_inf;    // to be used in the case of:
                                     // Restriction display information structure
```

1.3.2 Call duration notification event structure

In this sub-section, the associated data structure is CelfMpEvent with the following values:

category = VoiceNotify;

subtype = TelCallTime;

The value of field “info” is Call duration (seconds).

The field “data” is unused.

1.3.3 Disconnection cause notification event structure

In this sub-section, the associated data structure is CelfMpEvent with the following values:

category = VoiceNotify;

subtype = DiscCause;

The value of field “info” is the call reference.

The field “data” carries:

```
CelfMpCsDiscCause cme;   // Disconnection cause information structure
```

1.3.4 Disconnection cause information structure

The error codes and cause information in this section directly correspond to 3GPP TS 24.008.

```
typedef struct {
 unsigned char e_code;    // Result code flag
 unsigned char code;      // Result code
 unsigned char e_cause;   // Error reason flag
 unsigned char cause;     // Error reason
} CelfMpCsDiscCause;
```


1.3.5 Forwarding result notification event structure

In this sub-section, the associated data structure is CelfMpEvent with the following values:

category = VoiceNotify;

subtype = FW_Result

The value of field “info” is the call reference.

The value of “subinfo” carries the forwarding result.

The field “data” carries:

```
CelfMpCsFwResult        fw_result;    // Forwarding result structure
```

1.3.6 Forwarding result structure (CelfMpCsFwResult)

```
typedef struct {
 int cause ;          // forwarding result details
} CelfMpCsFwResult;
```

1.3.7 Off-hook transmission timeout event structure

In this sub-section, the associated data structure is CelfMpEvent with the following values:

category = VoiceNotify;

subtype = OffHk_Trn

The value of field “info” is the call reference.

The field “data” is unused.

1.3.8 Connection Destination Information (CelfMpConnectInfo)

```
typedef struct {
 CelfMpCallRef          CN_No;          // Call reference
 CelfMpCsCallRefStatus  CN_status;
 int                    continue_flag;
 unsigned char          Calling_Dial [CELF_MP_CS_DIAL_MAX+1];
 unsigned char          Called_Dial [CELF_MP_CS_DIAL_MAX+1];
 CelfMpCsBusyTone       BusyToneSound_inf;
 CelfMpCsBtype          bc_type;
 unsigned char[10]      taf_address;
 unsigned char          cause_of_NoCLI;
 unsigned char          num_presentation_indicatior;
 unsigned char          redirectnum [CELF_MP_CS_DIAL_MAX+1];
 unsigned char          redirect_presentation_indicator;
```



```
 unsigned char          signal;
 CelfMpCsDiscCause      cause; // Disconnection cause information structure
} CelfMpCsConnectInf
```

1.3.9 Connection Request (CelfMpCsConReq)

```
typedef struct {
 CelfMpCsBtype          type;
 unsigned char *        dial_buf;
 int                    dial_len;
 CelfMpCsNotice         notice;
 unsigned char *        subaddr_buf;
 int                    subaddr_len;
} CelfConReq
```

1.3.10 Redirection number

Destination number of call transfer.

redirectnum [CELF_MP_CS_DIAL_MAX+1]

1.3.11 Channel Number Information (CelfMpCsChanNum)

CelfMpCsChanNum is used to hold call reference information.

If a channel is not used, CELF_MP_CS_CHAN_NOUSE is set as the call reference.

```
typedef struct {
 int Slot_0             // Call reference information 00
 int Slot_1             // Call reference information 01
 int Slot_2             // Call reference information 02
}  CelfMpCsChanNum
```

1.3.12 Channel not in use Flag

int CELF_MP_CS_CHAN_NOUSE : usually holds the call reference if channels are not used.

1.3.13 DCF Event Structure

In this sub-section, the associated data structure is CelfMpEvent with the following values:

category = VoiceNotify;

subtype = DCF_Event_type;

The value of field “info” is the notification type.

The value of field “subinfo” is the bearer type

The field “data” carries:

DCF message structure corresponding to report types.

1.3.14 Line status change notification event structure

In this sub-section, the associated data structure is CelfMpEvent with the following values:

category = VoiceNotify;

subtype = AreaInfo;

The value of field “info” is the line status.

The value of field “subinfo” is the line type.

The field “data” is unused.

1.3.15 Restriction display information structure (CelfMpCsResChgInf)

```
typedef struct {
 CelfMpCsLineRestrict     NcRestriction;    // Normal originating restriction
 CelfMpLineSrvStatus      ServiceStatus;    // Service status
 CelfMpCsLineRestrict     EcRestriction;    // Emergency originating restriction
} CelfMpCsResChgInf;
```

1.3.16 Receive level change notification event structure

In this sub-section, the associated data structure is CelfMpEvent with the following values:

category = VoiceNotify;

subtype = RssiLevel;

The value of field “info” is the receive level.

The value of field “subinfo” is the line type.

The field “data” is unused.

1.3.17 Line Status structure (CelfMpCsAreaRefChgInf)

```
typedef struct  {
 CelfMpCsLineStatus          LineStatus ;          // Line status
 CelfMpCsCoverage            CoverageStatus ;      // Service status
 CelfMpCsLineRRCMode         RRC_mode ;            // RRC mode
 CelfMpCsLineNetwork         Network ;             // Network identification
information
```



```
CelfMpCsLineCvrStatus       ServiceStatus_AREA ;   // Area status information
// This information is set up when a cellular phone receives "AreaStatus-ind" from the
// network.
// It shows effective service in the present area.
// Either "CS", "PS", "CS &PS" or "No data" is set.
CelfMpCsLineRestrict        RestrictStatus ;       // Restriction status
CelfMpCsLineRestrict        NcRestriction ;        // Normal originating restriction
CelfMpLineSrvStatus         ServiceStatus_RES ;    // Service status restriction
// This information is set up when a cellular phone receives “Permission-ind” from the
// network side.
// It shows the service regulated in the present area.
// Either “CS”, “PS” or "CS & PS" is set.
CelfMpCsLineRestrict        EcRestriction ;        // Emergency originating
restriction
} CelfMpCsAreaRefChgInf ;
```

1.3.18 Additional service data structure (CelfMpCsAddSrvData)

```
typedef struct  {
 CelfMpCsFlag    flag ;
 char      title[CELF_SRVINFO_TITLE];      // Additional service name
                                           // CELF_SRVINFO_TITLE=21
 char      send_no[CELF_SRVINFO_DATA];     // Dial data for accessing the service
                                           // CELF_SRVINFO_DATA=40
} CelfMpCsAddSrvData;
```

1.3.19 Response Message Data Structure (CelfMpCsResponseMsgData)

The additional response message information is the service name and Dial data, which is response message to send the network.

```
typedef struct {
   unsigned char   title[CELF_RESMSG_TITLE] ;      // Service name
   unsigned char   res_msg[CELF_RESMSG_DATA];      // Dial data
} CelfMpCsResponseMsgData;
```


1.3.20 Line Status Extension (CelfMpCsLineStatusEx)

unsigned char* CelfMpCsLineStatusEx; // data for additional line status information

1.3.21 Number of stored messages (CelfMpCsVMNum)

int CelfMpCsVMNum

1.3.22 Date Format Structure (CelfMpCsDate)

```
typedef struct {
unsigned char    Month
unsigned char    Day
unsigned char    Hour
unsigned char    Minute
} CelfMpCsDate
```

1.3.23 Dial Buffer (CelfMpCsDialBuffer)

char* CelfMpCsDialBuffer

1.3.24 Dial Buffer Length (CelfMpCsDialLen)

int CelfMpCsDialLen

1.3.25 Multi Party Operation (CelfMpCsMop)

CELF_MP_CS_MOP_RSV_DISC: // Disconnect the hold call

CELF_MP_CS_MOP_DISC_AND_RSP: // Response after disconnection

CELF_MP_CS_MOP_RSV_AND_RSP: // Response after hold (including operation for switching a call)

CELF_MP_CS_MOP_CR_DISC: // Disconnect call specified by the call reference

1.3.26 Timer Value (CelfMpCsTimer)

int CelfMpCsTimer // value 1 .. 120 seconds

1.4 Events Type

1.4.1 DCF Event Type

DCF_Disp	: Display-related message
DCF_History	: History-related message
DCF_Tone1	: Tone 1-related message
DCF_Tone2	: Tone 2-related message
DCF_ETC	: Other messages

1.4.2 CCP Notification type

1.4.2.1 CELF_MP_CS_CCP_CALLING_START_REQ

Description: Notification of starting display during CCP outgoing

1.4.2.2 CELF_MP_CS_CCP_CALLED_START_IND

Description: Notification of starting display during CCP incoming

1.4.2.3 CELF_MP_CS_CCP_CALLING_ALERT_IND

Description: Notification of starting display during CCP calling

1.4.2.4 CELF_MP_CS_CCP_CONNECT_START_RSP

Description: Notification of starting display during CCP connection

1.4.2.5 CELF_MP_CS_CCP_CONNECT_START_IND

Description: Notification of starting display during CCP communication

1.4.2.6 CELF_MP_CS_CCP_RELEASE_IND

Description: Notification of ending CCP display

1.4.2.7 CELF_MP_CS_CCP_DISCONNECT_REQ

Description: Notification of starting CCP disconnection (on a mobile device) display

1.4.2.8 CELF_MP_CS_CCP_DISCONNECT_START_IND

Description: Notification of starting CCP disconnection (on a network) display

1.4.2.9 CELF_MP_CS_CCP_CALLING_REJ_IND

Description: Notification of rejecting CCP outgoing

1.4.2.10 CELF_MP_CS_CCP_HOLD_CNF

Description: Notification of CCP hold

1.4.2.11 CELF_MP_CS_CCP_RETREIVE_CNF

Description: Notification of releasing CCP hold

1.4.2.12 CELF_MP_CS_CCP_CALLING_SETUP_REQ

Description: Notification of registering CCP outgoing call history

1.4.2.13 CELF_MP_CS_CCP_CALLED_REJ_REQ

Description: Notification of registering CCP absence incoming call history

1.4.2.14 CELF_MP_CS_CCP_CALLED_SETUP_RSP

Description: Notification of registering CCP incoming call history

1.4.2.15 CELF_MP_CS_CCP_RGT_START

Description: Notification of CCP RGT start

1.4.2.16 CELF_MP_CS_CCP_RGT_STOP

Description: Notification of CCP RGT stop

1.4.2.17 CELF_MP_CS_CCP_HRGT_START

Description: Start notification of incoming of a CCP hold call

1.4.2.18 CELF_MP_CS_CCP_HRGT_STOP

Description: Stop notification of incoming of a CCP hold call

1.4.2.19 CELF_MP_CS_CCP_DST_START

Description: Notification of CCP DST start

1.4.2.20 CELF_MP_CS_CCP_DST_STOP

Description: Notification of CCP DST stop

1.4.2.21 CELF_MP_CS_CCP_RBT_START

Description: Notification of CCP RBT start

1.4.2.22 CELF_MP_CS_CCP_RBT_STOP

Description: Notification of CCP RBT stop

1.4.2.23 CELF_MP_CS_CCP_BT_START

Description: Notification of CCP BT start

1.4.2.24 CELF_MP_CS_CCP_CWT_START

Description: Notification of CCP CWT start

1.4.2.25 CELF_MP_CS_CCP_CWT_STOP

Description: Notification of CCP CWT stop

1.4.2.26 CELF_MP_CS_CCP_REJECT_ASK

Description: Inquiry report of rejecting a CCP CS incoming call

1.4.3 Notification type

CELF_MP_CS_RSMP_REST_START : Restriction display start notification

CELF_MP_CS_RSMP_REST_STOP : Restriction display stop notification

1.4.4 Restriction status

The 0th bit is used for PS restriction status, and the 1st bit is used for CS restriction status.

(Bit ON means "restricted." Bit OFF means "unrestricted.")

CELF_MP_BIT_RESTINF_CS : CS restriction information

CELF_MP_BIT_RESTINF_PS : PS restriction information

The 2nd bit is used for PS emergency restriction status, and the 3rd bit is used for CS emergency restriction status.

CELF_MP_BIT_ECRESTINF_CS : Emergency CS restriction information

CELF_MP_BIT_ECRESTINF_PS : Emergency PS restriction information

1.5 Status Codes (CelfMpStatus)

CELF_MP_STATUS_OK	: successful completion
CELF_MP_STATUS_APP_ID_ERR	: Application ID is not valid
CELF_MP_STATUS_CALL_NO_ERR	: Call number is not valid
CELF_MP_STATUS_EVENT_SET_ERR	: Notification event set is not valid
CELF_MP_STATUS_COM_TYPE_ERR	: Communication type is not valid
CELF_MP_STATUS_MON_TYPE_ERR	: Monitor type is not valid
CELF_MP_STATUS_ERR	: Other unsuccessful completion
CELF_MP_CS_ONHOOK_DENY	: On-hook originating is impossible.
CELF_MP_CS_ONHOOK_STATUS_ERR	: Error due to communication conflict
CELF_MP_CS_ONHOOK_OB_CR	: Excess of the maximum number of calls

2. Start Notification

2.1 Symbol: celf_mp_cs_notification_start

2.1.1 Syntax

CelfMpStatus `celf_mp_cs_notification_start` (

CelfMpAppID	app_id,
CelfMpCsNotifySet	event_set,
CelfMpCallback	callback_func);

2.1.2 Argument

Name: app_id

Type: CelfMpAppId

I/O: I

Description:

Application identifier.

Name: event_set

Type: CelfMpCsNotifySet

I/O: I

Description:

Notification event set. Events that are classified as belonging to one of the `CelfMpCsNotifySet` class **may** be registered to have a callback function called when the event occurs for the application identified by app_id. Classes of events are enabled by setting the corresponding bit in event_set:

The event classes are defined as follows:

CELF_MP_CS_CLASS_COM_STATUS:	Voice communication status notification
CELF_MP_CS_CLASS_TLK_TIME:	Call duration notification
CELF_MP_CS_CLASS_DISC_CAUSE:	Disconnection cause notification
CELF_MP_CS_CLASS_FW_RESULT:	Call forwarding result notification
CELF_MP_CS_CLASS_OFFHK_TO:	Off-hook originating timeout notification

A callback **may** be registered for all classes of events using special event class CELF_MP_CS_CLASS_ALL, however to reduce overhead it is recommended that only the needed event classes **should** be registered.

Name: callback_func

Type: CelfMpCallback

I/O: I

Description:

The callback function, which **shall** be called when an event occurs from one of the classes in `event_set`.

2.1.3 Return Value

Type: CelfMpStatus

Description:

`celf_mp_cs_notification_start()` **shall** return one of the following values:

CELF_MP_STATUS_OK:	successful completion
CELF_MP_STATUS_APP_ID_ERR:	Application ID is not valid
CELF_MP_STATUS_EVENT_SET_ERR:	Notification event set is not valid
CELF_MP_STATUS_ERR:	Other unsuccessful completion.

2.1.4 Include File

/usr/include/celf/mp_cs.h

2.1.5 Functional Description

This is a synchronous function.

This function is used to start notification callbacks for events related to circuit-switched communication.

Events from a registered class **shall** cause the registered callback function to be called when the event occurs for the application identified by app_id. If a class of events does not have a registered callback function, no callback **shall** occur for those events.

The event structure CelfMpEvent **must** be used and the value subtype **shall be set to ConnInfo.** See section 1.3.1.

3. Stop Notification

3.1 Symbol: celf_mp_cs_notification_stop

3.1.1 Syntax

CelfMpStatus `celf_mp_cs_notification_stop` (

CelfMpAppId app_id,

CelfMpCsNotifySet event_set);

3.1.2 Argument

Name: app_id

Type: CelfMpAppId

I/O: I

Description:

Application identifier.

Name: event_set

Type: CelfMpCsNotifySet

I/O: I

Description:

Notification event set. Events that are classified as belonging to one of the `CelfMpCsNotifySet` class **may** be registered to have a callback function called when the event occurs for the application identified by app_id. Classes of events are enabled by setting the corresponding bit in event_set:

The event classes are defined as follows:

CELF_MP_CS_CLASS_COM_STATUS: Voice communication status notification

CELF_MP_CS_CLASS_TLK_TIME: Call duration notification

CELF_MP_CS_CLASS_DISC_CAUSE: Disconnection cause notification

CELF_MP_CS_CLASS_FW_RESULT: Call forwarding result notification

CELF_MP_CS_CLASS_OFFHK_TO: Off-hook originating timeout notification

3.1.3 Return Value

Type: CelfMpStatus

Description:

celf_mp_cs_notification_stop() **shall** return one of the following values:

CELF_MP_STATUS_OK: successful completion

CELF_MP_STATUS_APP_ID_ERR: Application ID is not valid.

CELF_MP_STATUS_EVENT_SET_ERR: Notification event set is not valid

CELF_MP_STATUS_ERR: Other unsuccessful completion.

3.1.4 Include File

/usr/include/celf/mp_cs.h

3.1.5 Functional Description

This function stops all voice communication related event reporting.

If any voice communication function is called after the notification has been stopped, the call **shall** report CELF_MP_STATUS_ERR.

For notification events, see "Start notification".

Note: For further information about the event structure consult section 1.3 in this document.

4. Get Voice Communication Status

4.1 Symbol: celf_mp_cs_get_com_status

4.1.1 Syntax

CelfMpStatus `celf_mp_cs_get_com_status` (

CelfMpAppId app_id);

4.1.2 Argument

Name: app_id

Type: CelfMpAppId

I/O: I

Description:

Application identifier.

4.1.3 Return Value

Type: CelfMpStatus

Description:

`celf_mp_cs_get_com_status()` **shall** return one of the values defined in section 0.1.

4.1.4 Include File

/usr/include/celf/mp_cs.h

4.1.5 Functional Description

This function gets the current voice communication status.

Without the monitoring the voice communication, it is possible to get the status of voice communication.

5. Get Connection Information to Other Party

5.1 Symbol: celf_mp_cs_get_con_info_ref

5.1.1 Syntax

CelfMpStatus `celf_mp_cs_get_con_info_ref` (

CelfMpAppId app_id,

CelfMpCallRef call_no,

CelfMpConnectInfo connect_inf_p);

5.1.2 Argument

Name: app_id

Type: CelfMpAppId

I/O: I

Description:

Application identifier.

Name: call_no

Type: CelfMpCallRef

I/O: I

Description:

Call reference (0 to 255).

Name: connect_inf_p

Type: CelfMpConnectInfo

I/O: I

Description:

Pointer to the connection destination information. See section 0.1 for details.

5.1.3 Return Value

Type: CelfMpStatus

Description:

`celf_mp_cs_get_con_info_ref()` **shall** return one of the values defined:

CELF_MP_STATUS_OK: successful completion

CELF_MP_STATUS_APP_ID_ERR: Application ID is not valid.

CELF_MP_STATUS_CALL_NO_ERR: Call number is not valid

CELF_MP_STATUS_ERR: Other unsuccessful completion.

5.1.4 Include File

/usr/include/celf/mp_cs.h

5.1.5 Functional Description

This function refers to the connection information to other party specified call reference

Without the monitoring the voice communication, it is possible to get the connection information

In the following cases, the CelfMpStatus is set CELF_MP_CS_ERR.

1. The call specified by call reference does not exist.
2. Other parameter Error.

6. Get Call Duration

6.1 Symbol: celf_mp_cs_get_call_duration

6.1.1 Syntax

CelfMpStatus `celf_mp_cs_get_call_duration` (

CelfMpAppId app_id,

CelfMpTime time);

6.1.2 Argument

Name: app_id

Type: CelfMpAppId

I/O: I

Description:

Application identifier.

Name: time

Type: CelfMpTime

I/O: O

Description:

`time` returns the current call duration in seconds.

6.1.3 Return Value

Type: CelfMpStatus

Description:

`celf_mp_cs_get_con_info_ref()` **shall** return one of the values defined:

CELF_MP_STATUS_OK: successful completion

CELF_MP_STATUS_APP_ID_ERR: Application ID is not valid.

CELF_MP_STATUS_ERR: Other unsuccessful completion.

6.1.4 Include File

/usr/include/celf/mp_cs.h

6.1.5 Functional Description

This function gets the call duration on the current call.

The call duration is counted by the voice communication service.

1489 When no call exists, the function returns zero.

1490

7. Off-Hook Notification

7.1 Symbol: celf_mp_cs_notification_off_hook

7.1.1 Syntax

CelfMpStatus `celf_mp_cs_notification_off_hook` (

CelfMpAppId app_id,

CelfMpCsBtype com_type,

CelfMpCsOffHk option);

7.1.2 Argument

Name: app_id

Type: CelfMpAppId

I/O: I

Description:

Application identifier.

Name: com_type

Type: CelfMpCsBtype

I/O: I

Description:

Communication type as defined in section 1.2.4

Name: option

Type: CelfMpCsOffHk

I/O: I

Description:

One the following options **shall** be set:

CELF_MP_CS_OFFHK_AUTO Automatic transmission

CELF_MP_CS_OFFHK_MANUAL Manual transmission

7.1.3 Return Value

Type: CelfMpStatus

Desc**ription:**

`celf_mp_cs_notification_off_hook()` **shall** return one of the values defined:

CELF_MP_STATUS_OK: successful completion

CELF_MP_STATUS_APP_ID_ERR: Application ID is not valid.

CELF_MP_STATUS_COM_TYPE_ERR:	Communication type is not valid
CELF_MP_STATUS_ERR:	Other unsuccessful completion.

7.1.4 Include File

/usr/include/celf/mp_cs.h

7.1.5 Functional Description

This function receives the request of off-hook.

The term “off-hook” refers to the user first presses the "dial" button, then enters the number to dial.

By this function,

(1) When the mobile phone is in the wait (standby) status, the dial tone (DT) sounds and it is possible to input dial number, or

(2) When the input of dial number is completed, the mobile phone starts the originating.

Because the function is an immediate return function, to confirm the complete result, including the negotiation with the network, `celf_mp_cs_notification_status()` shall be used to obtain the communication status.

When a mobile phone is moved to low voltage mode, a low voltage notification is sent.

During low voltage, when the communication status is other than the under standby, this Off-hook is disabled.

If an incoming call arrives during off-hook, this Off-hook is cancelled.

In case of using the subaddress, it should be use the function "On-hook originating".

8. Disconnect

8.1 Symbol: celf_mp_cs_disconnect

8.1.1 Syntax

CelfMpStatus `celf_mp_cs_disconnect` (

CelfMpAppId app_id,

CelfMpCsBtype com_type);

8.1.2 Argument

Name: app_id

Type: CelfMpAppId

I/O: I

Description:

Application identifier.

Name: com_type

Type: CelfMpCsBtype

I/O: I

Description:

Communication type as defined in section 1.2.4.

8.1.3 Return Value

Type: CelfMpStatus

Description:

`celf_mp_cs_disconnect()` **shall** return one of the values defined:

CELF_MP_STATUS_OK:	successful completion
CELF_MP_STATUS_APP_ID_ERR:	Application ID is not valid
CELF_MP_STATUS_COM_TYPE_ERR:	Communication type is not valid
CELF_MP_STATUS_ERR:	Other unsuccessful completion.

8.1.4 Include File

/usr/include/celf/mp_cs.h

8.1.5 Functional Description

This function receives the request to disconnect the call.

1586

1587 Because the function is an immediate return function, to confirm the complete result,
1588 including the negotiation with the network, it should be issued
1589 `celf_mp_cs_notification_status()` to obtain the communication status.

1590

1591 An incoming call cannot be disconnected by this function. (Use "Reject incoming call")

1592

1593 If multiple calls exist, all calls are disconnected.

1594

9. Dial

9.1 Symbol: celf_mp_cs_dial

9.1.1 Syntax

CelfMpStatus `celf_mp_cs_dial` (

CelfMpAppId app_id,

CelfMpCsBtype com_type,

CelfMpCsDialBuffer dial_buf,

CelfMpCsDialLen dial_len);

9.1.2 Argument

Name: app_id

Type: CelfMpAppId

I/O: I

Description:

Application identifier.

Name: com_type

Type: CelfMpCsBtype

I/O: I

Description:

Communication type as defined in section 1.2.4.

Name: dial_buf

Type: CelfMpCsDialBuffer

I/O: I

Description:

Dial data buffer address

Name: dial_len

Type: CelfMpCsDialLen

I/O: I

Description:

Dial data length

9.1.3 Return Value

Type: CelfMpStatus

Description:

`celf_mp_cs_dial()` **shall** return one of the values defined:

CELF_MP_STATUS_OK:	successful completion
CELF_MP_STATUS_APP_ID_ERR:	Application ID is not valid.
CELF_MP_STATUS_COM_TYPE_ERR:	Communication type is not valid
CELF_MP_STATUS_ERR:	Other unsuccessful completion.

9.1.4 Include File

/usr/include/celf/mp_cs.h

9.1.5 Functional Description

This function receives the sequence of dial number.

Because the function is an immediate return function, to confirm the complete result, including the negotiation with the network, it should be issued "celf_mp_cs_notification_status()" to obtain the communication status.

The dial data stores the following ASCII codes.

1 : 0 x 31 2 : 0 x 32 3 : 0 x 33

4 : 0 x 34 5 : 0 x 35 6 : 0 x 36

7 : 0 x 37 8 : 0 x 38 9 : 0 x 39

* : 0 x 2a 0 : 0 x 30 # : 0 x 23

Under this off-hook status, the mobile phone starts an outgoing call with "Dial" and "Complete dial".

Five seconds later from the last digit has been entered, the outgoing process starts automatically, when automatic transmission is specified in "Off-hook".

When "Off-hook" is called, the mobile phone is in off-hook status.

Under this on-hook status, DTMF is sent, if the status is (a) the conversation or (b) the conversation and hold.

10.Dial Complete

10.1 Symbol: celf_mp_cs_dial_end

10.1.1 Syntax

CelfMpStatus `celf_mp_cs_dial_end` (

CelfMpAppId app_id,

CelfMpCsBtype com_type);

10.1.2 Argument

Name: app_id

Type: CelfMpAppId

I/O: I

Description:

Application identifier.

Name: com_type

Type: CelfMpCsBtype

I/O: I

Description:

Communication type as defined in section 1.2.4.

10.1.3 Return Value

Type: CelfMpStatus

Description:

`celf_mp_cs_dial_end()` **shall** return one of the values defined:

CELF_MP_STATUS_OK:	successful completion
CELF_MP_STATUS_APP_ID_ERR:	Application ID is not valid.
CELF_MP_STATUS_COM_TYPE_ERR:	Communication type is not valid
CELF_MP_STATUS_ERR:	Other unsuccessful completion.

10.1.4 Include File

/usr/include/celf/mp_cs.h

10.1.5 Functional Description

This function receives the request to end the dial entry.

1696

1697 Because this is an asynchronous function the service will return the result through a
1698 notification.

1699 `celf_mp_cs_notification_status()` shall be used to obtain the communication
1700 status.

1701 Under off-hook status, the mobile phone starts outgoing operation by calling this function
1702 with dial number, which was given by preceding function calls "Dial".

1703

1704 Under on-hook status, the calling this function is disabled, a CELF_MP_STATUS_ERR
1705 **shall** be returned.

1706

11.Response to Incoming Call

11.1 Symbol: celf_mp_cs_call_rcv

11.1.1 Syntax

```
CelfMpStatus celf_mp_cs_call_rcv (
    CelfMpAppId         app_id,
    CelfMpCsBtype       com_type);
```

11.1.2 Argument

Name: app_id

Type: CelfMpAppId

I/O: I

Description:

Application identifier.

Name: com_type

Type: CelfMpCsBtype

I/O: I

Description:

Communication type as defined in section 1.2.4.

11.1.3 Return Value

Type: CelfMpStatus

Description:

`celf_mp_cs_call_rcv()` **shall** return one of the values defined:

CELF_MP_STATUS_OK:	successful completion
CELF_MP_STATUS_APP_ID_ERR:	Application ID is not valid.
CELF_MP_STATUS_COM_TYPE_ERR:	Communication type is not valid
CELF_MP_STATUS_ERR:	Other unsuccessful completion.

11.1.4 Include File

/usr/include/celf/mp_cs.h

11.1.5 Functional Description

This function receives the request to process an incoming call.

Because the function is an immediate return function, to confirm the complete result, including the negotiation with the network, it should be issued `celf_mp_cs_notification_status()` to obtain the communication status.

One of the following operations is performed depending on the mobile phone status.

Incoming	:	Responds to the incoming call.
In hold	:	Responds to the response hold call
Others	:	Disabled

If the mobile phone is in low voltage mode, this function is disabled.

To respond to the incoming call in the status, “in conversation and incomings”, use "Reject incoming call".

12.Forward Incoming Call

12.1 Symbol: celf_mp_cs_call_forward

12.1.1 Syntax

CelfMpStatus `celf_mp_cs_call_forward` (

CelfMpCsBtype com_type);

12.1.2 Argument

Name: com_type

Type: CelfMpCsBtype

I/O: I

Description:

Communication type as defined in section 1.2.4.

12.1.3 Return Value

Type: CelfMpStatus

Description:

`celf_mp_cs_call_forward()` **shall** return one of the values defined:

CELF_MP_STATUS_OK: successful completion

CELF_MP_STATUS_COM_TYPE_ERR: Communication type is not valid

CELF_MP_STATUS_ERR: Other unsuccessful completion.

12.1.4 Include File

/usr/include/celf/mp_cs.h

12.1.5 Functional Description

This function receives the request to forward an incoming call.

Because the function is an immediate return function, to confirm the complete result, including the negotiation with the network, a `celf_mp_cs_notification_status()` should be issued to obtain the communication status.

The incoming call is forwarded when the communication status is (a) under the incoming, (b) under conversation and incoming, or (c) under hold and incoming.

If the forwarding fails, incoming call is continued between other party and this phone.

13.Forward to Voice Mail System

13.1 Symbol: celf_mp_cs_call_forward_voice_msg

13.1.1 Syntax

CelfMpStatus `celf_mp_cs_call_forward_voice_msg` (

CelfMpCsBtype com_type);

13.1.2 Argument

Name: com_type

Type: CelfMpCsBtype

I/O: I

Description:

Communication type as defined in section 1.2.4.

13.1.3 Return Value

Type: CelfMpStatus

Description:

`celf_mp_cs_call_forward_voice_msg()` **shall** return one of the values defined:

CELF_MP_STATUS_OK: successful completion

CELF_MP_STATUS_COM_TYPE_ERR: Communication type is not valid

CELF_MP_STATUS_ERR: Other unsuccessful completion.

13.1.4 Include File

/usr/include/celf/mp_cs.h

13.1.5 Functional Description

This function receives the request to forward a call to a voice mail system.

Because the function is an immediate return function, to confirm the complete result, including the negotiation with the network, it should be issued `celf_mp_cs_notification_status()` to obtain the communication status.

The incoming call is forwarded to phone-answering message when the communication status is (a) under the incoming, (b) under conversation and incoming, or (c) under hold and incoming.

If the forwarding fails, incoming call is continued between other party and this phone.

14.Call Hold

14.1 Symbol: celf_mp_cs_call_hold

14.1.1 Syntax

CelfMpStatus `celf_mp_cs_call_hold` (

CelfMpCsBtype com_type);

14.1.2 Argument

Name: com_type

Type: CelfMpCsBtype

I/O: I

Description:

Communication type as defined in section 1.2.4.

14.1.3 Return Value

Type: CelfMpStatus

Description:

`celf_mp_cs_call_hold()` **shall** return one of the values defined:

CELF_MP_STATUS_OK: successful completion

CELF_MP_STATUS_COM_TYPE_ERR: Communication type is not valid

CELF_MP_STATUS_ERR: Other unsuccessful completion.

14.1.4 Include File

/usr/include/celf/mp_cs.h

14.1.5 Functional Description

This function receives the requests response hold.

Because the function is an immediate return function, to confirm the complete result, including the negotiation with the network, it should be issued `celf_mp_cs_notification_status()` to obtain the communication status.

This response hold is performed for an incoming call, only when the communication status is under incoming.

To release response hold (move to the under conversation status) call "Response to an incoming call".

15.Call Reject

15.1 Symbol: celf_mp_cs_call_reject

15.1.1 Syntax

CelfMpStatus `celf_mp_cs_call_reject` (

CelfMpCsBtype com_type);

15.1.2 Argument

Name: com_type

Type: CelfMpCsBtype

I/O: I

Description:

Communication type as defined in section 1.2.4.

15.1.3 Return Value

Type: CelfMpStatus

Description:

`celf_mp_cs_call_reject()` **shall** return one of the values defined:

CELF_MP_STATUS_OK:	successful completion
CELF_MP_STATUS_COM_TYPE_ERR:	Communication type is not valid
CELF_MP_STATUS_ERR:	Other unsuccessful completion.

15.1.4 Include File

/usr/include/celf/mp_cs.h

15.1.5 Functional Description

This function receives the request to reject an incoming call.

Because the function is an immediate return function, to confirm the complete result, including the negotiation with the network, it should be issued `celf_mp_cs_notification_start()` to obtain the communication status.

The operation for each communication status is as follows:

incoming:	Rejects an incoming call
In conversation and incoming:	Rejects an incoming call
In hold and incoming:	Rejects an incoming call

1897	In conversation, hold, and incoming:	Rejects an incoming call

16.Multi Party Call

16.1 Symbol: celf_mp_cs_mp_call

16.1.1 Syntax

CelfMpStatus `celf_mp_cs_mp_call` (

CelfMpCsBtype com_type,

CelfMpCsMop mode,

CelfMpCallRef call_reference);

16.1.2 Argument

Name: com_type

Type: CelfMpCsBtype

I/O: I

Description:

Communication type as defined in section 1.2.4.

Name: mode

Type: CelfMpCsMop

I/O: I

Description:

Operation type

CELF_MP_CS_MOP_RSV_DISC: Disconnect the hold call

CELF_MP_CS_MOP_DISC_AND_RSP: Response after disconnection

CELF_MP_CS_MOP_RSV_AND_RSP: Response after hold (including operation for switching a call)

CELF_MP_CS_MOP_CR_DISC: Disconnect call specified by the call reference

Name: call_reference

Type: CelfMpCallRef

I/O: I

Description:

Call reference of the call to be disconnected

Valid only if CELF_MP_CS_MOP_CR_DISC is specified for the second argument.

16.1.3 Return Value

Type: CelfMpStatus

Description:

`celf_mp_cs_mp_call()` **shall** return one of the values defined:

CELF_MP_STATUS_OK:	successful completion
CELF_MP_STATUS_COM_TYPE_ERR:	Communication type is not valid
CELF_MP_STATUS_ERR:	Other unsuccessful completion.

16.1.4 Include File

/usr/include/celf/mp_cs.h

16.1.5 Functional Description

This function receives the request to operate for each call, when communication is made with multiple calls.

The operation is as follows depending on CELF_MP_CS_MOP:

- CELF_MP_CS_MOP_RSV_DISC

If a hold call exists, this hold call is disconnected.

- CELF_MP_CS_MOP_DISC_AND_RSP

If a conversation call exists and if another call status is incoming or hold, the conversation call transits to disconnect status and another call transits to conversation status.

See detail below.

(1) Under conversation and incoming

This status is that 1st call is in conversation, and 2nd call is incoming.

The result is that 1st call is released, and 2nd call is conversation.

(2) Under conversation and hold

This status is that 1st call is in conversation, and 2nd call is hold.

The result is that 1st call is released, and 2nd call is conversation.

(3) Under conversation, hold, and incoming

This status is that 1st call is in conversation, that 2nd call is hold, and that 3rd call is incoming.

The result is that 1st call is released, that 2nd call maintains hold, and that 3rd call is conversation.

(4) Under response hold

This status is not changed.

- CELF_MP_CS_MOP_RSV_AND_RSP

If a conversation call exists and if another call status is incoming or hold,

the conversation call transits to hold status and another call transits to conversation status.

See detail below.

(1) Under conversation and incoming

This status is that 1st call is in conversation, and 2nd call is incoming.

The result is that 1st call is hold, and 2nd call is conversation.

(2) Under conversation and hold

This status is that 1st call is in conversation, and 2nd call is hold.

The result is that 1st call is hold, and 2nd call is conversation.

(3) Under conversation, hold, and incoming

This status is that 1st call is in conversation, that 2nd call is hold, and that 3rd call is incoming.

The result is that 1st call is hold, that 2nd call is in conversation, that 3rd call maintains incoming.

(4) Under response hold

This status is that 1st call is hold.

The result is that 1st call is in conversation.

- CELF_MP_CS_MOP_CR_DISC It is disconnect the call specified the call reference.

Because the function is an immediate return function, to confirm the complete result, including the negotiation with the network, it should be issued `celf_mp_cs_notification_start()` to obtain the communication status.

17.On-Hook Originating

17.1 Symbol: celf_mp_cs_originating_on_hook

17.1.1 Syntax

CelfMpStatus `celf_mp_cs_originating_on_hook` (

CelfMpAppId app_id,

CelfMpCsConReq con_req);

17.1.2 Argument

Name: app_id

Type: CelfMpAppId

I/O: I

Description:

Application identifier.

Name: con_req

Type: CelfMpCsConReq

I/O: I

Description:

Communication request type as defined in section 1.2.4.

17.1.3 Return Value

Type: CelfMpStatus

Description:

`celf_mp_cs_call_reject()` **shall** return one of the values defined:

CELF_MP_STATUS_OK:	successful completion
CELF_MP_STATUS_APP_ID_ERR:	Application ID is not valid
CELF_MP_CS_ONHOOK_DENY:	On-hook originating is impossible
CELF_MP_CS_ONHOOK_STATUS_ERR:	Error due to communication conflict
CELF_MP_CS_ONHOOK_OB_CR:	Excess of the maximum number of calls
CELF_MP_STATUS_ERR:	Other unsuccessful completion.

17.1.4 Include File

/usr/include/celf/mp_cs.h

17.1.5 Functional Description

This function receives the request to start an outgoing call with the specified dial number.

The communication status should be Standby.

The dial number is specified by "dial_buf" and "subaddr_buf" in the “con_req” structure.

If the character string, "184" or "186", is placed at the head of dial data, this character string is deleted.

Whether the originating dial number is notified or not, it is identified by "notice".

The dial data and subaddress stores the following ASCII codes.

1 : 0 x 31	2 : 0 x 32	3 : 0 x 33
4 : 0 x 34	5 : 0 x 35	6 : 0 x 36
7 : 0 x 37	8 : 0 x 38	9 : 0 x 39
* : 0 x 2a	0 : 0 x 30	# : 0 x 23

Because the function is an immediate return function, to confirm the complete result, including the negotiation with the network, it should be issued `celf_mp_cs_notification_start()` to obtain the communication status.

The originating request during low voltage is disabled.

18.Get Call Reference

18.1 Symbol: celf_mp_cs_get_call_reference

18.1.1 Syntax

CelfMpStatus `celf_mp_cs_get_call_reference` (

CelfMpAppId app_id,

CelfMpCsChanNum channel_num);

18.1.2 Argument

Name: app_id

Type: CelfMpAppId

I/O: I

Description:

Application identifier.

Name: channel_num

Type: CelfMpCsChanNum

I/O: O

Description:

Channel number information as defined in section 1.2.4.

18.1.3 Return Value

Type: CelfMpStatus

Description:

`celf_mp_cs_get_call_reference()` **shall** return one of the values defined:

CELF_MP_STATUS_OK: successful completion

CELF_MP_STATUS_APP_ID_ERR: Application ID is not valid

CELF_MP_STATUS_ERR: Other unsuccessful completion.

18.1.4 Include File

/usr/include/celf/mp_cs.h

18.1.5 Functional Description

This function gets the call reference in use.

2083 A value within 0 to 255 is set to "ChanNum_00", "ChanNum_01" and "ChanNum_02". If
2084 channel is not used, CELF_MP_CS_CHAN_NOUSE is set as the call reference.

2085

2086 Three channels correspond to three calls in multiple calls.

19.Start DCF message notification

19.1 Symbol: celf_mp_cs_DCF_notification_start

19.1.1 Syntax

```
CelfMpStatus celf_mp_cs_DCF_notification_start (
    CelfMpAppId         app_id,
    CelfMpDCFSet        event_set,
    CelfMpCallback      callback_func);
```

19.1.2 Argument

Name: app_id

Type: CelfMpAppId

I/O: I

Description:

Application identifier.

Name: event_set

Type: CelfMpCsDCFSet

I/O: I

Description:

Notification event set. Events that are classified as belonging to one of the `CelfMpCsDCFSet` class **may** be registered to have a callback function called when the event occurs for the application identified by app_id. Classes of events are enabled by setting the corresponding bit in event_set:

The event classes are defined as follows:

CELF_MP_CS_DCF_DISP	Display-related message
CELF_MP_CS_DCF_HISTORY	History-related message
CELF_MP_CS_DCF_TONE1	Tone 1-related message
CELF_MP_CS_DCF_TONE2	Tone 2-related message
CELF_MP_CS_DCF_ETC	Other messages
CELF_MP_CS_CLASS_ALL	All notified

A callback **may** be registered for all classes of events using special event class CELF_MP_CS_CLASS_ALL, however to reduce overhead it is recommended that only the needed event classes **should** be registered.

Name: callback_func

Type: CelfMpCallback

I/O: I

Description:

The callback function, which **shall** be called when an event occurs from one of the classes in `event_set`.

19.1.3 Return Value

Type: CelfMpStatus

Description:

`celf_mp_cs_DCF_notification_start ()` **shall** return one of the values defined:

CELF_MP_STATUS_OK:	successful completion
CELF_MP_STATUS_APP_ID_ERR:	Application ID is not valid
CELF_MP_STATUS_ERR:	Other unsuccessful completion.

19.1.4 Include File

/usr/include/celf/mp_cs.h

19.1.5 Functional Description

This function starts the monitoring the DCF message on the voice communication or AV communication.

The occurrence of the event is notified to the application, specified by app_id.

The messages to be notified are described below.

Display-related message:

-Notification of starting display during CCP outgoing

-Notification of starting display during CCP incoming

-Notification of starting display during CCP calling

-Notification of starting display during CCP connecting

-Notification of starting display during CCP communication

-Notification of ending CCP That is to notifies of release of a CCP call.

-Notification of starting CCP disconnection (on the mobilephone) display

-Notification of starting display of CCP disconnection (on the network) display

-Notification of rejecting CCP outgoing

-Notification of CCP hold

-Notification of releasing CCP hold

History-related message:

-Notification of registering CCP outgoing call history

-Notification of registering CCP absence incoming call history

-Notification of registering CCP incoming call history

Tone 1-related message:(Tone sounding on the AP layer)

-Notification of CCP RGT start

-Notification of CCP RGT stop

-Start report of incoming of a CCP hold call

-Stop report of incoming of a CCP hold call

Tone 2-related message:(Tone sounding by the voice communication service)

-Notification of CCP DST start

-Notification of CCP DST stop

-Notification of CCP RBT start

-Notification of CCP RBT stop

-Notification of CCP BT start

-Notification of CCP CWT start

-Notification of CCP CWT stop

Other messages:

-Inquiry report of rejecting a CCP CS incoming call

20.Stop DCF message notification

20.1 Symbol: celf_mp_cs_DCF_notification_stop

20.1.1 Syntax

CelfMpStatus `celf_mp_cs_DCF_notification_stop` (

CelfMpAppId app_id,

CelfMpDCFSet event_set);

20.1.2 Argument

Name: app_id

Type: CelfMpAppId

I/O: I

Description:

Application identifier.

Name: event_set

Type: CelfMpCsDCFSet

I/O: I

Description:

Notification event set. Events that are classified as belonging to one of the `CelfMpCsDCFSet` class. Classes of events are enabled by setting the corresponding bit in event_set:

The event classes are defined as follows:

CELF_MP_CS_DCF_DISP	Display-related message
CELF_MP_CS_DCF_HISTORY	History-related message
CELF_MP_CS_DCF_TONE1	Tone 1-related message
CELF_MP_CS_DCF_TONE2	Tone 2-related message
CELF_MP_CS_DCF_ETC	Other messages
CELF_MP_CS_CLASS_ALL	All notified

20.1.3 Return Value

Type: CelfMpStatus

Description:

`celf_mp_cs_DCF_notification_stop()` **shall** return one of the values defined:

CELF_MP_STATUS_OK: successful completion

CELF_MP_STATUS_APP_ID_ERR:	Application ID is not valid
CELF_MP_STATUS_ERR:	Other unsuccessful completion.

20.1.4 Include File

/usr/include/celf/mp_cs.h

20.1.5 Functional Description

This function stops notifying of the DCF message on voice communication or AV communication.

21.Voice Message Notification

21.1 Symbol: celf_mp_cs_voice_msg_notify

21.1.1 Syntax

CelfMpStatus `celf_mp_cs_voice_msg_notify` (

CelfMpCsRecMsg rec_status);

21.1.2 Argument

Name: rec_status

Type: CelfMpCsRecMsg

I/O: I

Description:

CELF_MP_CS_REC_MSG_START: Start of a voice message

CELF_MP_CS_REC_MSG_STOP: Stop of a voice message

21.1.3 Return Value

Type: CelfMpStatus

Description:

`celf_mp_cs_call_voice_msg_notify()` **shall** return one of the values defined:

CELF_MP_STATUS_OK: successful completion

CELF_MP_STATUS_COM_TYPE_ERR: Communication type is not valid

CELF_MP_STATUS_ERR: Other unsuccessful completion.

21.1.4 Include File

/usr/include/celf/mp_cs.h

21.1.5 Functional Description

This function must be called before the communication state is changed to "under conversation."

After the start notification, a stop notification **must** be issued, when the voice message is stopped.

22.Hold Tone Start

22.1 Symbol: celf_mp_cs_hold_tone_start

22.1.1 Syntax

CelfMpStatus `celf_mp_cs_hold_tone_start` (

CelfMpAppId app_id);

22.1.2 Argument

Name: app_id

Type: CelfMpAppId

I/O: I

Description:

Application identifier.

22.1.3 Return Value

Type: CelfMpStatus

Description:

`celf_mp_cs_hold_tone_start()` **shall** return one of the values defined:

CELF_MP_STATUS_OK: successful completion

CELF_MP_STATUS_COM_TYPE_ERR: Communication type is not valid

CELF_MP_STATUS_APP_ID_ERR: Application ID is not valid

CELF_MP_STATUS_ERR: Other unsuccessful completion.

22.1.4 Include File

/usr/include/celf/mp_cs.h

22.1.5 Functional Description

This function starts to sound a hold tone during a call.

23.Hold Tone Stop

23.1 Symbol: celf_mp_cs_hold_tone_stop

23.1.1 Syntax

CelfMpStatus `celf_mp_cs_hold_tone_stop` (

CelfMpAppId app_id);

23.1.2 Argument

Name: app_id

Type: CelfMpAppId

I/O: I

Description:

Application identifier.

23.1.3 Return Value

Type: CelfMpStatus

Description:

`celf_mp_cs_hold_tone_stop()` **shall** return one of the values defined:

CELF_MP_STATUS_OK: successful completion

CELF_MP_STATUS_COM_TYPE_ERR: Communication type is not valid

CELF_MP_STATUS_APP_ID_ERR: Application ID is not valid

CELF_MP_STATUS_ERR: Other unsuccessful completion.

23.1.4 Include File

/usr/include/celf/mp_cs.h

23.1.5 Functional Description

This function stops to sound a hold tone during a call.

24.Get 64K / AV Communication Status

24.1 Symbol: celf_mp_cs_get_UD_com_stat

24.1.1 Syntax

```
CelfMpStatus celf_mp_cs_get_UD_com_stat (
    CelfMpUDComStatus  res_status);
```

24.1.2 Argument

Name: res_status

Type: CelfMpUDComStatus

I/O: O

Description:

returns one of the values defined:

CELF_MP_CS_UD_STOP:	Under stop
CELF_MP_CS_UD_RUN:	Under communication
CELF_MP_CS_UD_CALLED:	Under incoming
CELF_MP_CS_UD_CALLING:	Under outgoing
CELF_MP_CS_UD_DISCONNECT:	Under disconnection
CELF_MP_CS_UD_CALLING_ALERT:	Under calling
CELF_MP_CS_UD_HOLD:	Under hold
CELF_MP_CS_UD_ERR:	Error in UD Communication

24.1.3 Return Value

Type: CelfMpStatus

Description:

`celf_mp_cs_get_UD_com_stat()` **shall** return one of the values defined:

CELF_MP_STATUS_OK:	successful completion
CELF_MP_STATUS_ERR:	Other unsuccessful completion.

24.1.4 Include File

/usr/include/celf/mp_cs.h

24.1.5 Functional Description

This function refers to the communication status of 64K communication or AV communication.

25.Get internal/external AV Communication Status

25.1 Symbol: celf_mp_cs_get_AV_com_stat

25.1.1 Syntax

```
CelfMpStatus celf_mp_cs_get_AV_com_stat (
    CelfMpUDComStatus  res_status );
```

25.1.2 Argument

Name: res_status

Type: CelfMpUDComStatus

I/O: O

Description:

returns one of the values defined:

CELF_MP_CS_AV_IN_STOP:	Under stop
CELF_MP_CS_AV_IN_RUN:	Under communication
CELF_MP_CS_AV_IN_CALLED:	Under incoming
CELF_MP_CS_AV_IN_CALLING:	Under outgoing
CELF_MP_CS_AV_IN_DISCONNECT:	Under disconnection
CELF_MP_CS_AV_IN_CALLING_ALERT:	Under calling
CELF_MP_CS_UD_IN_HOLD:	Under hold
CELF_MP_CS_AV_OUT_STOP:	Under stop
CELF_MP_CS_AV_OUT_RUN:	Under communication
CELF_MP_CS_AV_OUT_CALLED:	Under incoming
CELF_MP_CS_AV_OUT_CALLING:	Under outgoing
CELF_MP_CS_AV_OUT_DISCONNECT:	Under disconnection
CELF_MP_CS_AV_OUT_CALLING_ALERT:	Under calling
CELF_MP_CS_UD_OUT_HOLD:	Under hold

25.1.3 Return Value

Type: CelfMpStatus

I/O: O

Description:

`celf_mp_cs_get_AV_com_stat()` **shall** return one of the values defined:

CELF_MP_STATUS_OK:	successful completion
CELF_MP_STATUS_ERR:	Other unsuccessful completion.

2381

25.1.4 Include File

2382

2383 /usr/include/celf/mp_cs.h

2384

25.1.5 Functional Description

2385

2386 This function refers to the communication status of internal or external AV communication.

26.Get Communication Status

26.1 Symbol: celf_mp_cs_get_com_stat

26.1.1 Syntax

```
CelfMpStatus celf_mp_cs_get_com_stat (
    CelfMpAppId          app_id,
    CelfMpCsRcvScene *   rcv_type,
    CelfMpCsComStatus    res_status);
```

26.1.2 Argument

Name: app_id

Type: CelfMpAppId

I/O: I

Description:

Application identifier.

Name: rcv_type

Type: CelfMpCsRcvType

I/O: O

Description:

Incoming call type:

CELF_MP_CS_RCV_TYPE_COMPETE_TRN:	Communication Conflict
CELF_MP_CS_RCV_TYPE_RSV_RETURN:	Reestablish held call
CELF_MP_CS_RCV_TYPE_CALL_BACK:	Network Call Back
CELF_MP_CS_RCV_TYPE_NORMAL:	Normal
CELF_MP_CS_RCV_TYPE_NONE:	No Incoming Call

Name: res_status

Type: CelfMpCsComStatus

I/O: O

Description:

returns one of the values defined:

Current communication status

CELF_MP_CS_COM_STATUS_WAIT:	Standby
CELF_MP_CS_COM_STATUS_RCV:	Under incoming
CELF_MP_CS_COM_STATUS_TRN:	Under outgoing

CELF_MP_CS_COM_STATUS_DLV:	Under calling
CELF_MP_CS_COM_STATUS_TLK:	Under conversation
CELF_MP_CS_COM_STATUS_HLD:	Under response hold
CELF_MP_CS_COM_STATUS_DUMMY1:	Under off-hook
CELF_MP_CS_COM_STATUS_RLS:	Under release
CELF_MP_CS_COM_STATUS_TLK_RCV:	Under conversation and incoming
CELF_MP_CS_COM_STATUS_TLK_TRN:	Under conversation and outgoing
CELF_MP_CS_COM_STATUS_TLK_DLV:	Under conversation and calling
CELF_MP_CS_COM_STATUS_TLK_RSV:	Under conversation and hold
CELF_MP_CS_COM_STATUS_TLK_RLS:	Under conversation and release
CELF_MP_CS_COM_STATUS_TLK_RSV_RCV:	Under conversation, hold, and incoming
CELF_MP_CS_COM_STATUS_RCV_AV:	Under incoming of an AV call
CELF_MP_CS_COM_STATUS_TRN_AV:	Under outgoing of an AV call
CELF_MP_CS_COM_STATUS_DLV_AV:	Under calling of an AV call
CELF_MP_CS_COM_STATUS_TLK_AV:	Under conversation of an AV call
CELF_MP_CS_COM_STATUS_HLD_AV:	Under response hold of an AV call
CELF_MP_CS_COM_STATUS_RLS_AV:	Under release of an AV call
CELF_MP_CS_COM_STATUS_DUMMY2 :	Under AV off-hook
CELF_MP_STATUS_APP_ID_ERR:	Application ID is not valid.
CELF_MP_CS_ERR :	Abnormal end

26.1.3 Return Value

Type: CelfMpStatus

I/O: O

Description:

`celf_mp_cs_get_com_stat()` **shall** return one of the values defined:

CELF_MP_STATUS_OK:	successful completion
CELF_MP_STATUS_ERR:	Other unsuccessful completion.

26.1.4 Include File

/usr/include/celf/mp_cs.h

26.1.5 Functional Description

This function returns the incoming call status, when the current call is (a) under incoming status or (b) under conversation and incoming status.

27.Start Line Status Notification

27.1 Symbol: celf_mp_cs_line_status_notification_start

27.1.1 Syntax

```
CelfMpStatus celf_mp_cs_notification_start (
    CelfMpAppId         app_id,
    CelfMpCsMtype       event_set,
    CelfMpCallback      callback_func);
```

27.1.2 Argument

Name: app_id

Type: CelfMpAppId

I/O: I

Description:

Application identifier.

Name: event_set

Type: CelfMpCsMtype

I/O: I

Description:

Notification event set. Events that are classified as belonging to one of the `CelfMpCsNotifySet` class **may** be registered to have a callback function called when the event occurs for the application identified by app_id. Classes of events are enabled by setting the corresponding bit in event_set:

CELF_MP_CS_MONITOR_LINE_STATUS:	Line status change notification
CELF_MP_CS_MONITOR_RESTRICT:	Restriction status change notification
CELF_MP_CS_MONITOR_RSSI:	Receive level change notification
CELF_MP_CS_MONITOR_ALL:	All notified

Name: callback_func

Type: CelfMpCallback

I/O: I

Description:

The callback function, which **shall** be called when an event occurs from one of the classes in `event_set`.

27.1.3 Return Value

Type: CelfMpStatus

Description:

`celf_mp_cs_notification_start()` **shall** return one of the values defined:

CELF_MP_STATUS_OK:	successful completion
CELF_MP_STATUS_APP_ID_ERR:	Application ID is not valid
CELF_MP_STATUS_MON_TYPE_ERR:	Monitor type is not valid
CELF_MP_STATUS_ERR:	Other unsuccessful completion.

27.1.4 Include File

/usr/include/celf/mp_cs.h

27.1.5 Functional Description

This function starts the monitoring the line status.

The occurrence of the event is notified to the application, specified by app_id.

The events to be notified are described below.

1. Line status change notification:

This event notifies that the line status is changed.

The line status is the out-of-communication area status and the within-communication area.

2. Restriction status change notification:

This event notifies that a restriction status is changed.

The restriction means that the incoming call or the outgoing call is restricted by the network due to traffic congestion.

3. Receive level change notification:

This event notifies that the receive level is changed.

The receive level is the intensity of electromagnetic wave. The intensity is four levels, high, mid, low and zero (out of area).

See section 1. for structure definitions and values.

28.Stop Line Status Notification

28.1 Symbol: celf_mp_cs_line_status_notification_stop

28.1.1 Syntax

CelfMpStatus `celf_mp_cs_notification_stop` (

CelfMpAppId app_id,

CelfMpCsMtype event_set);

28.1.2 Argument

Name: app_id

Type: CelfMpAppId

I/O: I

Description:

Application identifier.

Name: event_set

Type: CelfMpCsMtype

I/O: I

Description:

Mask of the events for which reporting is to be stopped.

Notification event set. Events that are classified as belonging to one of the `CelfMpCsNotifySet` class **may** be registered to have a callback function called when the event occurs for the application identified by app_id. Classes of events are enabled by setting the corresponding bit in event_set:

CELF_MP_CS_MONITOR_LINE_STATUS: Line status change notification

CELF_MP_CS_MONITOR_RESTRICT: Restriction status change notification

CELF_MP_CS_MONITOR_RSSI: Received signal strength change notification

CELF_MP_CS_MONITOR_ALL: All notified

28.1.3 Return Value

Type: CelfMpStatus

Description:

`celf_mp_cs_notification_stop()` **shall** return one of the values defined:

CELF_MP_STATUS_OK: successful completion

CELF_MP_STATUS_APP_ID_ERR: Application ID is not valid

CELF_MP_STATUS_MON_TYPE_ERR: Monitor type is not valid

2563 CELF_MP_STATUS_ERR: Other unsuccessful completion.

2564

2565 28.1.4 Include File

2566 /usr/include/celf/mp_cs.h

2567

2568 28.1.5 Functional Description

2569 This function ends notifying on the event of the line status.

2570

29.Get Reception Level

29.1 Symbol: celf_mp_cs_get_reception_level

29.1.1 Syntax

```
CelfMpStatus celf_mp_cs_get_reception_level (
    CelfMpReceptionLevel        result);
```

29.1.2 Argument

Name: result

Type: CelfMpReceptionLevel

I/O: O

Description:

returns one of the values defined:

CELF_MP_CS_RSSI_LEVEL_NONE	: No reception
CELF_MP_CS_RSSI_LEVEL_LOW	: Receive level (Lowest)
CELF_MP_CS_RSSI_LEVEL_MEDIUM1	: Receive level
CELF_MP_CS_RSSI_LEVEL_MEDIUM2	: Receive level
CELF_MP_CS_RSSI_LEVEL_HIGH	: Receive level (Highest)

29.1.3 Return Value

Type: CelfMpStatus

I/O: O

Description:

`celf_mp_cs_get_reception_level()` **shall** return one of the values defined:

CELF_MP_STATUS_OK:	successful completion
CELF_MP_STATUS_APP_ID_ERR:	Application ID is not valid
CELF_MP_STATUS_ERR:	Other unsuccessful completion.

29.1.4 Include File

/usr/include/celf/mp_cs.h

29.1.5 Functional Description

This function obtains the current reception level.

Without the line status monitoring by calling the “Start line status monitoring”, it is possible to get the status of reception level.

30.Get Line Status

30.1 Symbol: celf_mp_cs_get_line_status

30.1.1 Syntax

CelfMpStatus `celf_mp_cs_get_line_status` (

CelfMpCsAreaRefChgInf * net);

30.1.2 Argument

Name: net

Type: CelfMpCsAreaRefChgInf

I/O: I

Description:

Pointer to the struct used to hold line status information

30.1.3 Return Value

Type: CelfMpStatus

Description:

`celf_mp_cs_get_line_status()` **shall** return one of the values defined:

CELF_MP_STATUS_OK: successful completion

CELF_MP_STATUS_ERR: Other unsuccessful completion.

30.1.4 Include File

/usr/include/celf/mp_cs.h

30.1.5 Functional Description

This function obtains the current line status.

Without the line status monitoring by calling the “Start line status monitoring”, it is possible to get the status of line status.

See section 1. for further information.

31.Get Coverage Status

31.1 Symbol: celf_mp_cs_get_coverage_status

31.1.1 Syntax

CelfMpStatus `celf_mp_cs_get_line_status` (

CelfMpCsLineStatusEx* net,

CelfMpCsCoverage cover);

31.1.2 Argument

Name: net

Type: CelfMpCsLineStatusEx

I/O: I

Description:

Pointer to the struct used to hold line status information

Name: cover

Type: CelfMpCsCoverage

I/O: O

Description:

Within- or out-of communication area status

CELF_MP_CS_LINE_STATUS_IN: Within-communication area

CELF_MP_CS_LINE_STATUS_OUT: Out-of-communication area

31.1.3 Return Value

Type: CelfMpStatus

Description:

`celf_mp_cs_get_line_status()` **shall** return one of the values defined:

CELF_MP_STATUS_OK: successful completion

CELF_MP_STATUS_ERR: Other unsuccessful completion.

31.1.4 Include File

/usr/include/celf/mp_cs.h

31.1.5 Functional Description

This function obtains the information on the current status of the within- and out-of-communication areas for current line.

(This function gets only information of inside or outside coverage area status.)

32.Get Voice Mail Information

32.1 Symbol: celf_mp_cs_get_vm_info

32.1.1 Syntax

```
CelfMpStatus celf_mp_cs_get_vm_info (
    CelfMpCsVMNum *     vm_num);
```

32.1.2 Argument

Name: vm_num

Type: CelfMpCsVMNum

I/O: I

Description:

Address of the storage area of the number of stored phone-answering messages

32.1.3 Return Value

Type: CelfMpStatus

Description:

`celf_mp_cs_get_vm_info()` **shall** return one of the values defined:

CELF_MP_STATUS_OK: successful completion

CELF_MP_STATUS_ERR: Other unsuccessful completion.

32.1.4 Include File

/usr/include/celf/mp_cs.h

32.1.5 Functional Description

This function obtains the storage status of phone-answering messages from nonvolatile memory.

The storage status is the number of message of phone-answering.

33.Set Voice Mail Information

33.1 Symbol: celf_mp_cs_set_vm_info

33.1.1 Syntax

CelfMpStatus `celf_mp_cs_set_vm_info` (

CelfMpCsVMNum vm_num);

33.1.2 Argument

Name: vm_num

Type: CelfMpCsVMNum

I/O: I

Description:

The number of stored phone-answering messages

33.1.3 Return Value

Type: CelfMpStatus

Description:

`celf_mp_cs_set_vm_info()` **shall** return one of the values defined:

CELF_MP_STATUS_OK: successful completion

CELF_MP_STATUS_ERR: Other unsuccessful completion.

33.1.4 Include File

/usr/include/celf/mp_cs.h

33.1.5 Functional Description

This function sets the storage status of phone-answering message to non-volatile memory.

34.Get Call Selection

34.1 Symbol: celf_mp_cs_get_call_select

34.1.1 Syntax

CelfMpStatus `celf_mp_cs_get_call_select` (

CelfMpCallSelect select);

34.1.2 Argument

Name: select

Type: CelfMpCallSelect

I/O: O

Description:

CELF_MP_CS_INCOMING_VOICE_ANSWERING Forward to the phone-answering message

CELF_MP_CS_INCOMING_FORWARD Forward

CELF_MP_CS_INCOMING_REJECT Reject (disconnect)

CELF_MP_CS_INCOMING_NORMAL Receipt of an incoming call (normal incoming)

34.1.3 Return Value

Type: CelfMpStatus

Description:

`celf_mp_cs_get_call_select ()` **shall** return one of the values defined:

CELF_MP_STATUS_OK: successful completion

CELF_MP_STATUS_ERR: Other unsuccessful completion.

34.1.4 Include File

/usr/include/celf/mp_cs.h

34.1.5 Functional Description

This function obtains the incoming call information from non-volatile memory.

Refer “Set incoming function selection”

35.Set Call Selection

35.1 Symbol: celf_mp_cs_set_call_select

35.1.1 Syntax

CelfMpStatus `celf_mp_cs_set_call_select` (

CelfMpCallSelect select);

35.1.2 Argument

Name: select

Type: CelfMpCallSelect

I/O: I

Description:

CELF_MP_CS_INCOMING_VOICE_ANSWERING: Forward to the phone-answering message

CELF_MP_CS_INCOMING_FORWARD: Forward

CELF_MP_CS_INCOMING_REJECT: Reject (disconnect)

CELF_MP_CS_INCOMING_NORMAL: Receipt of an incoming call (normal incoming)

35.1.3 Return Value

Type: CelfMpStatus

Description:

`celf_mp_cs_set_call_select()` **shall** return one of the values defined:

CELF_MP_STATUS_OK: successful completion

CELF_MP_STATUS_ERR: Other unsuccessful completion.

35.1.4 Include File

/usr/include/celf/mp_cs.h

35.1.5 Functional Description

This function sets the incoming call information to nonvolatile memory.

When an incoming call arrives during conversation mode, it is possible to save this incoming call information.

36.Set Service Information

36.1 Symbol: celf_mp_cs_set_service_info

36.1.1 Syntax

```
CelfMpStatus celf_mp_cs_set_service_info (
    CelfMpRegNum        reg_no,
    CelfMpCsSrvData *   data);
```

36.1.2 Argument

Name: reg_no

Type: CelfMpRegNum

I/O: I

Description:

Registration number: 1 to 10

Name: data

Type: CelfMpCsSrvData

I/O: I

Description:

Pointer to additional service data

36.1.3 Return Value

Type: CelfMpStatus

Description:

`celf_mp_cs_set_service_info()` **shall** return one of the values defined:

CELF_MP_STATUS_OK: successful completion

CELF_MP_STATUS_ERR: Other unsuccessful completion.

36.1.4 Include File

/usr/include/celf/mp_cs.h

36.1.5 Functional Description

This function registers the additional service information to the non-volatile memory,

The additional service information is the service name and Dial data for accessing the service.

2828 The ‘reg_no’ is used as the key for accessing this additional service.

2829 The value range is from 0 to 10.

2830 See section 1. for additional information.

2831

37.Get Service Information

37.1 Symbol: celf_mp_cs_get_service_info

37.1.1 Syntax

CelfMpStatus `celf_mp_cs_get_service_info` (

CelfMpRegNum reg_no,

CelfMpCsSrvData * data);

37.1.2 Argument

Name: reg_no

Type: CelfMpRegNum

I/O: I

Description:

Registration number: 1 to 10

Name: data

Type: CelfMpCsSrvData

I/O: I

Description:

Pointer to additional service data

37.1.3 Return Value

Type: CelfMpStatus

Description:

`celf_mp_cs_get_service_info()` **shall** return one of the values defined:

CELF_MP_STATUS_OK: successful completion

CELF_MP_STATUS_ERR: Other unsuccessful completion.

37.1.4 Include File

/usr/include/celf/mp_cs.h

37.1.5 Functional Description

This function obtains additional service information, specified by “reg_no”, from non-volatile memory.

2866 See “Register additional service settings”.

38.Delete Service Information

38.1 Symbol: celf_mp_cs_del_service_info

38.1.1 Syntax

```
CelfMpStatus celf_mp_cs_del_service_info (
    CelfMpRegNum        reg_no);
```

38.1.2 Argument

Name: reg_no

Type: CelfMpRegNum

I/O: I

Description:

Registration number: 1 to 10

38.1.3 Return Value

Type: CelfMpStatus

Description:

`celf_mp_cs_del_service_info()` **shall** return one of the values defined:

CELF_MP_STATUS_OK: successful completion

CELF_MP_STATUS_ERR: Other unsuccessful completion.

38.1.4 Include File

/usr/include/celf/mp_cs.h

38.1.5 Functional Description

This function deletes the additional service information specified by “reg_no” from non-volatile memory.

39.Remove Service Information

39.1 Symbol: celf_mp_cs_remove_all_service_info

39.1.1 Syntax

```
CelfMpStatus celf_mp_cs_remove_all_service_info (
    void);
```

39.1.2 Argument

None.

39.1.3 Return Value

Type: CelfMpStatus

Description:

`celf_mp_cs_remove_all_service_info()` **shall** return one of the values defined:

CELF_MP_STATUS_OK:	successful completion
CELF_MP_STATUS_ERR:	Other unsuccessful completion.

39.1.4 Include File

/usr/include/celf/mp_cs.h

39.1.5 Functional Description

This function deletes all the additional service information from non-volatile memory.

40.Set Response Message Settings

40.1 Symbol: celf_mp_cs_set_resp_msg

40.1.1 Syntax

```
CelfMpStatus celf_mp_cs_set_resp_msg (
    CelfMpRegNum        reg_no,
    CelfMpCsSrvData *   data);
```

40.1.2 Argument

Name: reg_no

Type: CelfMpRegNum

I/O: I

Description:

Registration number: 1 to 10

Name: data

Type: CelfMpCsSrvData

I/O: I

Description:

Pointer to the additional response message data area.

40.1.3 Return Value

Type: CelfMpStatus

Description:

`celf_mp_cs_set_resp_msg()` **shall** return one of the values defined:

CELF_MP_STATUS_OK: successful completion

CELF_MP_STATUS_ERR: Other unsuccessful completion.

40.1.4 Include File

/usr/include/celf/mp_cs.h

40.1.5 Functional Description

This function registers the additional response message information for the additional service to the non-volatile memory,

When a additional service is activated, and corresponding message from the network is received, this additional response message is sent to the network.

The additional response message information is the service name and Dial data, which is response message to send the network.

The “reg_no” is used as the key for accessing this additional response message.

The value range is from 0 to 10.

For information about the structures, see section 1.

41.Get Response Message Settings

41.1 Symbol: celf_mp_cs_get_resp_msg

41.1.1 Syntax

```
CelfMpStatus celf_mp_cs_get_resp_msg (
    CelfMpRegNum        reg_no,
    CelfMpCsSrvData *   data);
```

41.1.2 Argument

Name: reg_no

Type: CelfMpRegNum

I/O: I

Description:

Registration number: 1 to 10

Name: data

Type: CelfMpCsSrvData

I/O: I

Description:

Pointer to the additional response message setting data area

41.1.3 Return Value

Type: CelfMpStatus

Description:

`celf_mp_cs_get_resp_msg()` **shall** return one of the values defined:

CELF_MP_STATUS_OK: successful completion

CELF_MP_STATUS_ERR: Other unsuccessful completion.

41.1.4 Include File

/usr/include/celf/mp_cs.h

41.1.5 Functional Description

This function obtains the additional response message information, specified by “reg_no”, from non-volatile memory.

2992 See “Register response message settings”.

42.Delete Response Message Settings

42.1 Symbol: celf_mp_cs_del_resp_msg

42.1.1 Syntax

CelfMpStatus `celf_mp_cs_del_resp_msg` (

CelfMpRegNum reg_no);

42.1.2 Argument

Name: reg_no

Type: CelfMpRegNum

I/O: I

Description:

Registration number: 1 to 10

42.1.3 Return Value

Type: CelfMpStatus

Description:

`celf_mp_cs_del_resp_msg()` **shall** return one of the values defined:

CELF_MP_STATUS_OK: successful completion

CELF_MP_STATUS_ERR: Other unsuccessful completion.

42.1.4 Include File

/usr/include/celf/mp_cs.h

42.1.5 Functional Description

This function deletes the additional response message information, specified by “reg_no”, from non-volatile memory.

43.Remove All Response Message Settings

43.1 Symbol: celf_mp_cs_remove_all_resp_msg

43.1.1 Syntax

CelfMpStatus `celf_mp_cs_remove_all_resp_msg (`

void);

43.1.2 Argument

None.

43.1.3 Return Value

Type: CelfMpStatus

Description:

`celf_mp_cs_remove_all_resp_msg()` **shall** return one of the values defined:

CELF_MP_STATUS_OK: successful completion

CELF_MP_STATUS_ERR: Other unsuccessful completion.

43.1.4 Include File

/usr/include/celf/mp_cs.h

43.1.5 Functional Description

This function removes from non-volatile memory all the additional response message information.

44.Set Reconnection Tone

44.1 Symbol: celf_mp_cs_set_reconnection_tone

44.1.1 Syntax

CelfMpStatus `celf_mp_cs_set_reconnection_tone` (

CelfMpCsReconnectionTone reconn);

44.1.2 Argument

Name: reconn

Type: CelfMpCsReconnectionTone

I/O: I

Description:

Reconnection tone to be set

CELF_MP_CS_RECONN_ON_T_OFF: Tone OFF

CELF_MP_CS_RECONN_ON_T_LOW: Tone ON low tone

CELF_MP_CS_RECONN_ON_T_HI: Tone ON high tone

44.1.3 Return Value

Type: CelfMpStatus

Description:

`celf_mp_cs_set_reconnection_tone()` **shall** return one of the values defined:

CELF_MP_STATUS_OK: successful completion

CELF_MP_STATUS_ERR: Other unsuccessful completion.

44.1.4 Include File

/usr/include/celf/mp_cs.h

44.1.5 Functional Description

This function sets the reconnection tone information to the non-volatile memory.

45.Get Reconnection Tone

45.1 Symbol: celf_mp_cs_get_reconnection_tone

45.1.1 Syntax

CelfMpStatus `celf_mp_cs_get_reconnection_tone` (

CelfMpCsReconnectionTone result);

45.1.2 Argument

Name: result

Type: CelfMpCsReconnectionTone

I/O: O

Description:

returns one of the values defined:

CELF_MP_CS_RECONN_ON_T_OFF: Tone OFF

CELF_MP_CS_RECONN_ON_T_LOW: Tone ON low tone

CELF_MP_CS_RECONN_ON_T_HI: Tone ON high tone

45.1.3 Return Value

Type: CelfMpStatus

Description:

`celf_mp_cs_get_reconnection_tone()` **shall** return one of the values defined:

CELF_MP_STATUS_OK: successful completion

CELF_MP_STATUS_ERR: Other unsuccessful completion

45.1.4 Include File

/usr/include/celf/mp_cs.h

45.1.5 Functional Description

This function gets the reconnection tone information to the non-volatile memory.

46.Get Noise Cancel

46.1 Symbol: celf_mp_cs_get_noise_cancel

46.1.1 Syntax

CelfMpStatus `celf_mp_cs_get_noise_cancel`(

CelfMpCsNoiseCancel result);

46.1.2 Argument

Name: result

Type: CelfMpCsNoiseCancel

I/O: O

Description:

returns one of the values defined:

CELF_MP_CS_ON: Noise canceller ON

CELF_MP_CS_OFF: Noise canceller OFF

46.1.3 Return Value

Type: CelfMpStatus

Description:

`celf_mp_cs_get_noise_cancel()` **shall** return one of the values defined:

CELF_MP_STATUS_OK: successful completion

CELF_MP_STATUS_ERR: Other unsuccessful completion

46.1.4 Include File

/usr/include/celf/mp_cs.h

46.1.5 Functional Description

This function gets the noise canceller status.

47.Set Noise Cancel

47.1 Symbol: celf_mp_cs_set_noise_cancel

47.1.1 Syntax

CelfMpStatus `celf_mp_cs_set_noise_cancel` (

CelfMpCsNoiseCancel mode);

47.1.2 Argument

Name: mode

Type: CelfMpCsNoiseCancel

I/O: I

Description:

Reconnection tone to be set

CELF_MP_CS_ON: Noise canceller ON

CELF_MP_CS_OFF: Noise canceller OFF

47.1.3 Return Value

Type: CelfMpStatus

Description:

`celf_mp_cs_set_noise_cancel()` **shall** return one of the values defined:

CELF_MP_STATUS_OK: successful completion

CELF_MP_STATUS_ERR: Other unsuccessful completion.

47.1.4 Include File

/usr/include/celf/mp_cs.h

47.1.5 Functional Description

This function sets the noise canceller off or on.

48.Get Call Quality Alarm

48.1 Symbol: celf_mp_cs_get_call_quality_alarm

48.1.1 Syntax

CelfMpStatus `celf_mp_cs_get_call_quality_alarm (`

CelfMpCsQualAlarm result);

48.1.2 Argument

Name: result

Type: CelfMpCsQualAlarm

I/O: O

Description:

returns one of the values defined:

CELF_MP_CS_QUALITY_ALM_OFF: Quality alarm OFF

CELF_MP_CS_QUALITY_ALM_LOW: Quality alarm ON low tone

CELF_MP_CS_QUALITY_ALM_HI: Quality alarm ON high tone

48.1.3 Return Value

Type: CelfMpStatus

Description:

`celf_mp_cs_get_call_quality_alarm()` **shall** return one of the values defined:

CELF_MP_STATUS_OK: successful completion

CELF_MP_STATUS_ERR: Other unsuccessful completion.

48.1.4 Include File

/usr/include/celf/mp_cs.h

48.1.5 Functional Description

This function gets the status of the call quality alarm sound.

49.Set Call Quality Alarm

49.1 Symbol: celf_mp_cs_set_call_quality_alarm

49.1.1 Syntax

CelfMpStatus `celf_mp_cs_set_call_quality_alarm` (

CelfMpCsQualAlarm mode);

49.1.2 Argument

Name: mode

Type: CelfMpCsQualAlarm

I/O: I

Description:

CELF_MP_CS_QUALITY_ALM_OFF: Quality alarm OFF

CELF_MP_CS_QUALITY_ALM_LOW: Quality alarm ON low tone

CELF_MP_CS_QUALITY_ALM_HI: Quality alarm ON high tone

49.1.3 Return Value

Type: CelfMpStatus

Description:

`celf_mp_cs_set_call_quality_alarm()` **shall** return one of the values defined:

CELF_MP_STATUS_OK: successful completion

CELF_MP_STATUS_ERR: Other unsuccessful completion.

49.1.4 Include File

/usr/include/celf/mp_cs.h

49.1.5 Functional Description

This function sets the call quality alarm sound.

50.Get Noise Cancel Permit

50.1 Symbol: celf_mp_cs_get_noise_cancel_permit

50.1.1 Syntax

CelfMpStatus `celf_mp_cs_get_noise_cancel_permit (`

CelfMpCsNoiseCancel result);

50.1.2 Argument

Name: result

Type: CelfMpCsNoiseCancel

I/O: O

Description:

returns one of the values defined:

CELF_MP_CS_ON: Noise canceller permission

CELF_MP_CS_OFF: Noise canceller non-permission

50.1.3 Return Value

Type: CelfMpStatus

Description:

`celf_mp_cs_get_noise_cancel_permit()` **shall** return one of the values defined:

CELF_MP_STATUS_OK: successful completion

CELF_MP_STATUS_ERR: Other unsuccessful completion.

50.1.4 Include File

/usr/include/celf/mp_cs.h

50.1.5 Functional Description

This function obtains whether noise canceller is permitted or not.

51.Get High Priority communication mode

51.1 Symbol: celf_mp_cs_get_hi_prio_com

51.1.1 Syntax

CelfMpStatus `celf_mp_cs_get_hi_prio_com` (

CelfMpCsHiPrioCom mode);

51.1.2 Argument

Name: mode

Type: CelfMpCsHiPrioCom

I/O: O

Description:

Connection priority currently set:

CELF_MP_CS_COMPRI_NONE: No setting

CELF_MP_CS_COMPRI_VOICE: Voice

CELF_MP_CS_COMPRI_PACKET: Packet

51.1.3 Return Value

Type: CelfMpStatus

Description:

`celf_mp_cs_get_hi_prio_com()` **shall** return one of the values defined:

CELF_MP_STATUS_OK: successful completion

CELF_MP_STATUS_ERR: Other unsuccessful completion.

51.1.4 Include File

/usr/include/celf/mp_cs.h

51.1.5 Functional Description

This function returns the high priority communication mode setting in either to voice communication or packet communication. The priority gives the mandatory order of the processing.

52.Set High Priority communication mode

52.1 Symbol: celf_mp_cs_set_hi_prio_com

52.1.1 Syntax

CelfMpStatus `celf_mp_cs_set_hi_prio_com` (

CelfMpCsHiPrioCom mode);

52.1.2 Argument

Name: mode

Type: CelfMpCsHiPrioCom

I/O: I

Description:

Connection priority to be chosen.

CELF_MP_CS_COMPRI_NONE: No setting

CELF_MP_CS_COMPRI_VOICE: Voice

CELF_MP_CS_COMPRI_PACKET: Packet

52.1.3 Return Value

Type: CelfMpStatus

Description:

`celf_mp_cs_set_hi_prio_com()` **shall** return one of the values defined:

CELF_MP_STATUS_OK: successful completion

CELF_MP_STATUS_ERR: Other unsuccessful completion.

52.1.4 Include File

/usr/include/celf/mp_cs.h

52.1.5 Functional Description

This function sets the high priority communication mode either to voice communication or packet communication. The priority gives the mandatory order of the processing.

53.Get Phone Answering Sound Activation

53.1 Symbol: celf_mp_cs_get_vm_sound_status

53.1.1 Syntax

CelfMpStatus `celf_mp_cs_get_vm_sound_status (`

CelfMpCsVmSound result);

53.1.2 Argument

Name: result

Type: CelfMpCsVmSound

I/O: O

Description:

returns one of the values defined:

CELF_MP_CS_ON: Message sound ON

CELF_MP_CS_OFF: Message sound OFF

53.1.3 Return Value

Type: CelfMpStatus

Description:

`celf_mp_cs_get_vm_sound_status()` **shall** return one of the values defined:

CELF_MP_STATUS_OK: successful completion

CELF_MP_STATUS_ERR: Other unsuccessful completion.

53.1.4 Include File

/usr/include/celf/mp_cs.h

53.1.5 Functional Description

This function gets the setting status.

If the CelfMpCsVmSound is ON, the phone sounds, when the number of voice mail system increases.

54.Set Phone Answering Sound Activation

54.1 Symbol: celf_mp_cs_set_vm_sound_status

54.1.1 Syntax

CelfMpStatus `celf_mp_cs_set_vm_sound_status` (

CelfMpCsVmSound mode);

54.1.2 Argument

Name: mode

Type: CelfMpCsVmSound

I/O: I

Description:

CELF_MP_CS_ON: Message sound ON

CELF_MP_CS_OFF: Message sound OFF

54.1.3 Return Value

Type: CelfMpStatus

Description:

`celf_mp_cs_set_vm_sound_status()` **shall** return one of the values defined:

CELF_MP_STATUS_OK: successful completion

CELF_MP_STATUS_ERR: Other unsuccessful completion.

54.1.4 Include File

/usr/include/celf/mp_cs.h

54.1.5 Functional Description

This function sets the phone sounds status whether the phone sounds or not.

55.Get Automatic Receive Status

55.1 Symbol: celf_mp_cs_get_auto_rcv_status

55.1.1 Syntax

CelfMpStatus `celf_mp_cs_get_auto_rcv_status` (

CelfMpCsAutoRcv mode);

55.1.2 Argument

Name: mode

Type: CelfMpCsAutoRcv

I/O: O

Description:

returns one of the values defined:

CELF_MP_CS_ON: Automatic incoming call ON

CELF_MP_CS_OFF: Automatic incoming call OFF

55.1.3 Return Value

Type: CelfMpStatus

Description:

`celf_mp_cs_get_auto_rcv_status()` **shall** return one of the values defined:

CELF_MP_STATUS_OK: successful completion

CELF_MP_STATUS_ERR: Other unsuccessful completion.

55.1.4 Include File

/usr/include/celf/mp_cs.h

55.1.5 Functional Description

This function obtains the status of automatic incoming call.

56.Set Automatic Receive Status

56.1 Symbol: celf_mp_cs_set_auto_rcv_status

56.1.1 Syntax

CelfMpStatus `celf_mp_cs_set_auto_rcv_status` (

CelfMpCsAutoRcv mode);

56.1.2 Argument

Name: mode

Type: CelfMpCsAutoRcv

I/O: I

Description:

CELF_MP_CS_ON: Automatic incoming call ON

CELF_MP_CS_OFF: Automatic incoming call OFF

56.1.3 Return Value

Type: CelfMpStatus

Description:

`celf_mp_cs_set_auto_rcv_status()` **shall** return one of the values defined:

CELF_MP_STATUS_OK: successful completion

CELF_MP_STATUS_ERR: Other unsuccessful completion.

56.1.4 Include File

/usr/include/celf/mp_cs.h

56.1.5 Functional Description

This function sets the automatic incoming call status.

57.Get Automatic Timer

57.1 Symbol: celf_mp_cs_get_auto_timer

57.1.1 Syntax

CelfMpStatus `celf_mp_cs_get_auto_timer(`

CelfMpCsTimer result);

57.1.2 Argument

Name: result

Type: CelfMpCsTimer

I/O: O

Description:

returns one of the values defined:

1 to 120 seconds

57.1.3 Return Value

Type: CelfMpStatus

Description:

`celf_mp_cs_get_auto_timer()` **shall** return one of the values defined:

CELF_MP_STATUS_OK: successful completion

CELF_MP_STATUS_ERR: Other unsuccessful completion.

57.1.4 Include File

/usr/include/celf/mp_cs.h

57.1.5 Functional Description

This function obtains the timer value of the automatic incoming call.

The timer value is the duration of sounding of the ring alert.

58.Set Automatic Timer

58.1 Symbol: celf_mp_cs_set_auto_timer

58.1.1 Syntax

CelfMpStatus `celf_mp_cs_set_auto_timer` (

CelfMpCsTimer time);

58.1.2 Argument

Name: time

Type: CelfMpCsTimer

I/O: I

Description:

1 to 120 seconds

58.1.3 Return Value

Type: CelfMpStatus

Description:

`celf_mp_cs_set_auto_timer()` **shall** return one of the values defined:

CELF_MP_STATUS_OK: successful completion

CELF_MP_STATUS_ERR: Other unsuccessful completion.

58.1.4 Include File

/usr/include/celf/mp_cs.h

58.1.5 Functional Description

This function sets the timer value of the automatic incoming call.

59.Get Reset Date

59.1 Symbol: celf_mp_cs_get_reset_date

59.1.1 Syntax

CelfMpStatus `celf_mp_cs_get_reset_date`(

CelfMpCsDate * reset_date);

59.1.2 Argument

Name: reset_date

Type: CelfMpCsDate

I/O: O

Description:

Accumulated date record

See section 1. for details.

59.1.3 Return Value

Type: CelfMpStatus

Description:

`celf_mp_cs_get_reset_date()` **shall** return one of the values defined:

CELF_MP_STATUS_OK: successful completion

CELF_MP_STATUS_ERR: Other unsuccessful completion.

59.1.4 Include File

/usr/include/celf/mp_cs.h

59.1.5 Functional Description

This function obtains the date and time when the accumulated call duration was reset.

The value is obtained from non-volatile memory.

60.Set Reset Date

60.1 Symbol: celf_mp_cs_set_reset_date

60.1.1 Syntax

CelfMpStatus `celf_mp_cs_set_reset_date(`

void);

60.1.2 Argument

None.

60.1.3 Return Value

Type: CelfMpStatus

Description:

`celf_mp_cs_set_reset_date()` **shall** return one of the values defined:

CELF_MP_STATUS_OK: successful completion

CELF_MP_STATUS_ERR: Other unsuccessful completion.

60.1.4 Include File

/usr/include/celf/mp_cs.h

60.1.5 Functional Description

This function sets the current date and time as the reset date and time of the accumulated call duration.

The value set to non-volatile memory.

61.Get Call Silent Time

61.1 Symbol: celf_mp_cs_get_call_silent_time

61.1.1 Syntax

CelfMpStatus `celf_mp_cs_get_call_silent_time`(

CelfMpTime time);

61.1.2 Argument

Name: time

Type: CelfMpTime

I/O: O

Description:

returns one of the values defined:

0 to 99 seconds

61.1.3 Return Value

Type: CelfMpStatus

Description:

`celf_mp_cs_get_call_silent_time()` **shall** return one of the values defined:

CELF_MP_STATUS_OK: successful completion

CELF_MP_STATUS_ERR: Other unsuccessful completion.

61.1.4 Include File

/usr/include/celf/mp_cs.h

61.1.5 Functional Description

This function gets the duration between the arrival of incoming call and the start of sounding of the ring alert. This duration is called the silent time.

This function is effective that the number of this incoming call is unregistered with the phone book.

62.Set Call Silent Time

62.1 Symbol: celf_mp_cs_set_call_silent_time

62.1.1 Syntax

CelfMpStatus `celf_mp_cs_set_call_silent_time`(

CelfMpCsTimer time);

62.1.2 Argument

Name: time

Type: CelfMpCsTimer

I/O: I

Description:

0 to 99 seconds

62.1.3 Return Value

Type: CelfMpStatus

Description:

`celf_mp_cs_set_call_silent_time()` **shall** return one of the values defined:

CELF_MP_STATUS_OK: successful completion

CELF_MP_STATUS_ERR: Other unsuccessful completion.

62.1.4 Include File

/usr/include/celf/mp_cs.h

62.1.5 Functional Description

This function sets the silent time.

Refer to get calling operation start time.

63.Get Call Recorded

63.1 Symbol: celf_mp_cs_get_call_recorded

63.1.1 Syntax

CelfMpStatus `celf_mp_cs_get_call_recorded`(

CelfMpSetting mode);

63.1.2 Argument

Name: mode

Type: CelfMpSetting

I/O: O

Description:

returns one of the values defined:

CELF_MP_CS_ON: Setting ON

CELF_MP_CS_OFF: Setting OFF

63.1.3 Return Value

Type: CelfMpStatus

Description:

`celf_mp_cs_get_call_recorded()` **shall** return one of the values defined:

CELF_MP_STATUS_OK: successful completion

CELF_MP_STATUS_ERR: Other unsuccessful completion.

63.1.4 Include File

/usr/include/celf/mp_cs.h

63.1.5 Functional Description

This function gets the setting condition of whether the silent call is recorded in the absent incoming call log, or not.

The absent incoming call log is the log that records no-responded incoming call.

The silent call is the incoming call, which disconnects within the silent time.

Refer to “Get calling operation start time”.

64.Set Call Recorded

64.1 Symbol: celf_mp_cs_set_call_recorded

64.1.1 Syntax

CelfMpStatus `celf_mp_cs_set_call_recorded`(

CelfMpCsSetting mode);

64.1.2 Argument

Type: CelfMpCsSetting

I/O: I

Description:

CELF_MP_CS_ON: Setting ON

CELF_MP_CS_OFF: Setting OFF

64.1.3 Return Value

Type: CelfMpStatus

Description:

`celf_mp_cs_set_call_recorded()` **shall** return one of the values defined:

CELF_MP_STATUS_OK: successful completion

CELF_MP_STATUS_ERR: Other unsuccessful completion.

64.1.4 Include File

/usr/include/celf/mp_cs.h

64.1.5 Functional Description

This function sets the setting condition of whether the silent call is recorded in the absent incoming call log or not.

Refer to “Get recording condition to absent incoming call log”.

65.Set Radio

65.1 Symbol: celf_mp_cs_set_radio

65.1.1 Syntax

CelfMpStatus `celf_mp_cs_set_radio`(

CelfMpCsSetting mode);

65.1.2 Argument

Type: CelfMpCsSetting

I/O: I

Description:

CELF_MP_CS_ON: Setting ON

CELF_MP_CS_OFF: Setting OFF

65.1.3 Return Value

Type: CelfMpStatus

Description:

`celf_mp_cs_set_radio()` **shall** return one of the values defined:

CELF_MP_STATUS_OK: successful completion

CELF_MP_STATUS_ERR: Other unsuccessful completion.

65.1.4 Include File

/usr/include/celf/mp_cs.h

65.1.5 Functional Description

This function sets the setting for deactivating or reactivating the Radio RF.

66.Get Radio Status

66.1 Symbol: celf_mp_cs_get_radio

66.1.1 Syntax

CelfMpStatus `celf_mp_cs_get_radio`(

CelfMpCsSetting mode);

66.1.2 Argument

Type: CelfMpCsSetting

I/O: O

Description:

CELF_MP_CS_ON: Setting ON

CELF_MP_CS_OFF: Setting OFF

66.1.3 Return Value

Type: CelfMpStatus

Description:

`celf_mp_cs_get_radio()` **shall** return one of the values defined:

CELF_MP_STATUS_OK: successful completion

CELF_MP_STATUS_ERR: Other unsuccessful completion.

66.1.4 Include File

/usr/include/celf/mp_cs.h

66.1.5 Functional Description

This function gets the status the Radio RF.

