
Application Programming Interface Document

Offline Charging System API Specification

Version 1.0

Document Information**Document Sign Off**

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Document Information

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History

Document Version Control

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| April 22, 2008 | 1.0 | Qamar Ejaz | Details of API specification |
| | | | |

Objective

Document Scope

The information provided in this document specifies the Application Programming Interface for the Offline Charging System of the IP Multimedia Subsystem , as well as for the Ro reference point . For complete scope of Offline Charging System please see the Project Proposal.

1. Abbreviations

Following are the abbreviations that have been used in the document:

- AVP** Attribute Value Pair
- ACR** Accounting Request
- ACA** Accounting Answer

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2. Rf Reference Point

2.1. Rf Structures

2.1.1. RfAPIReturnVal_t

```
typedef enum RfAPIReturnVal  
{  
  
    RfAPI-Retval-Success,  
  
    RfAPI-Retval-Failure  
  
} RfAPIReturnVal_t;
```

Enumeration Explanation

This enumeration contains the possible return values from the Rf API.

Fields:

RfAPI-Retval-Success

This enumeration value will be returned in case of success.

RfAPI-Retval-Failure

This enumeration value will be returned in case of failure.

2.1.2. ACR_Params_t

```
typedef struct ACR_Params  
{  
    DAPI-HANDLE-AVP hAVP_SessionID;  
    DAPI-HANDLE-AVP hAVP_OriginHost;  
    DAPI-HANDLE-AVP hAVP_OriginRealm;  
    DAPI-HANDLE-AVP hAVP_DestinationRealm;  
    DAPI-HANDLE-AVP hAVP_AccountingRecordType;  
    DAPI-HANDLE-AVP hAVP_AccountingRecordNumber;  
    DAPI-HANDLE-AVP hAVP_AcctApplicationID;  
    DAPI-HANDLE-AVP hAVP_VendorSpecificApplicationID;  
    DAPI-HANDLE-AVP hAVP_UserName;  
    DAPI-HANDLE-AVP hAVP_AccountingSubSessionID;  
    DAPI-HANDLE-AVP hAVP_AcctSessionID;  
    DAPI-HANDLE-AVP hAVP_AcctMultiSessionID;  
    DAPI-HANDLE-AVP hAVP_AcctInterimInterval;  
    DAPI-HANDLE-AVP hAVP_AccountingRealtimeRequired;  
    DAPI-HANDLE-AVP hAVP_OriginStateID;
```

```
DAPI-HANDLE-AVP hAVP_EventTimestamp;  
DAPI-Dlist* pListOfProxyInfoAVPs;  
DAPI-Dlist* pListOfRouteRecordAVPs;  
DAPI-Dlist* pListOfFurtherAVPs;  
} ACR_Params_t;
```

Structure Explanation

This structure contains the list of parameters required for the creation of ACR Diameter message.

Fields:

DAPI-HANDLE-AVP hAVP_SessionID

This field contains the handle to the Session ID AVP.

DAPI-HANDLE-AVP hAVP_OriginHost

This field contains the handle to the Origin Host AVP

DAPI-HANDLE-AVP hAVP_OriginRealm

This field contains the handle to the Origin Realm AVP.

DAPI-HANDLE-AVP hAVP_DestinationRealm

This field contains the handle to the Destination Realm AVP

DAPI-HANDLE-AVP hAVP_AccountingRecordType

This field contains the handle to the Accounting record Type AVP.

DAPI-HANDLE-AVP hAVP_Service-Context-Id

This field contains the handle to the Service Context Id AVP.

DAPI-HANDLE-AVP hAVP_AccountingRecordNumber

This field contains the handle to the Accounting Record Number AVP.

DAPI-HANDLE-AVP hAVP_AcctApplicationID

This field contains the handle to the Accounting Application ID AVP.

DAPI-HANDLE-AVP hAVP_VendorSpecificApplicationID

This field contains the handle to the Vendor Specific Application Id AVP.

DAPI-HANDLE-AVP hAVP_UserName

This field contains the handle to the User Name AVP.

DAPI-HANDLE-AVP hAVP_AccountingSubSessionID

This field contains the handle to the Accounting Sub session ID.

DAPI-HANDLE-AVP hAVP_AcctSessionID

This field contains the handle to the Accounting Session ID AVP.

DAPI-HANDLE-AVP hAVP_AcctMultiSessionID

This field contains the handle to the Accounting Multi Session ID AVP.

DAPI-HANDLE-AVP hAVP_AcctInterimInterval

This field contains the handle to the Accounting Interim Interval AVP.

DAPI-HANDLE-AVP hAVP_AccountingRealtimeRequired

This field contains the handle to the Accounting Realtime Required AVP.

DAPI-HANDLE-AVP hAVP_OriginStateID

This field contains the handle to the Origin State ID AVP.

DAPI-HANDLE-AVP hAVP_EventTimestamp

This field contains the handle to the Event Time stamp AVP.

DAPI-Dlist* pListOfProxyInfoAVPs

This field contains a linked list containing the handles to one or more Proxy Info AVPs.

DAPI-Dlist* pListOfRouteRecordAVPs

This field contains a linked list containing the handles to one or more Route Record AVPs.

DAPI-Dlist* pListOfFurtherAVPs

This field contains a linked list containing the handles to one or more arbitrary AVPs.

2.1.3. ACA_Params_t

```
typedef struct ACA_Params  
{
```

```
    DAPI-HANDLE-AVP hAVP_SessionID;  
    DAPI-HANDLE-AVP hAVP_ResultCode;  
    DAPI-HANDLE-AVP hAVP_OriginHost;  
    DAPI-HANDLE-AVP hAVP_OriginRealm;  
    DAPI-HANDLE-AVP hAVP_AccountingRecordType;  
    DAPI-HANDLE-AVP hAVP_AccountingRecordNumber;  
    DAPI-HANDLE-AVP hAVP_AcctApplicationID;  
    DAPI-HANDLE-AVP hAVP_VendorSpecificApplicationID;
```

```
DAPI-HANDLE-AVP hAVP_UserName;  
DAPI-HANDLE-AVP hAVP_AccountingSubSessionID;  
DAPI-HANDLE-AVP hAVP_AcctSessionID;  
DAPI-HANDLE-AVP hAVP_AcctMultiSessionID;  
DAPI-HANDLE-AVP hAVP_ErrorReportingHost;  
DAPI-HANDLE-AVP hAVP_AcctInterimInterval;  
DAPI-HANDLE-AVP hAVP_AccountingRealtimeRequired;  
DAPI-HANDLE-AVP hAVP_OriginStateID;  
DAPI-HANDLE-AVP hAVP_EventTimestamp;  
DAPI-Dlist* pListOfProxyInfoAVPs;  
DAPI-Dlist* pListOfFurtherAVPs;  
} ACA_Params_t;
```

Structure Explanation

This structure contains the list of parameters required for the creation of ACA Diameter message.

Fields:

DAPI-HANDLE-AVP hAVP_SessionID

This field contains the handle to the Session ID AVP.

DAPI-HANDLE-AVP hAVP_ResultCode

This field contains the handle to the Result Code AVP.

DAPI-HANDLE-AVP hAVP_OriginHost

This field contains the handle to the Origin Host AVP.

DAPI-HANDLE-AVP hAVP_OriginRealm

This field contains the handle to the Origin Realm AVP.

DAPI-HANDLE-AVP hAVP_AccountingRecordType

This field contains the handle to the Accounting Record Type AVP.

DAPI-HANDLE-AVP hAVP_AccountingRecordNumber

This field contains the handle to the Accounting Record Number AVP.

DAPI-HANDLE-AVP hAVP_AcctApplicationID

This field contains the handle to the Accounting Application ID AVP.

DAPI-HANDLE-AVP hAVP_VendorSpecificApplicationID

This field contains the handle to the Vendor Specific Application ID AVP.

DAPI-HANDLE-AVP hAVP_UserName

This field contains the handle to the User Name AVP.

DAPI-HANDLE-AVP hAVP_AccountingSubSessionID

This field contains the handle to the Accounting Sub Session ID AVP.

DAPI-HANDLE-AVP hAVP_AcctSessionID

This field contains the handle to the Accounting Session ID.

DAPI-HANDLE-AVP hAVP_AcctMultiSessionID

This field contains the handle to the Accounting Multi Session ID.

DAPI-HANDLE-AVP hAVP_ErrorReportingHost

This field contains the handle to the Error Reporting Host AVP.

DAPI-HANDLE-AVP hAVP_AcctInterimInterval

This field contains the handle to the Accounting Interim Interval AVP.

DAPI-HANDLE-AVP hAVP_AccountingRealtimeRequired

This field contains the handle to the Accounting Realtime Required AVP.

DAPI-HANDLE-AVP hAVP_OriginStateID

This field contains the handle to the Origin State ID AVP.

DAPI-HANDLE-AVP hAVP_EventTimestamp

This field contains the handle to the Event Timestamp AVP.

DAPI-Dlist* pListOfProxyInfoAVPs

This field contains a linked list containing the handles to one or more Proxy Info AVPs.

DAPI-Dlist* pListOfFurtherAVPs

This field contains a linked list containing the handles to one or more arbitrary AVPs.

2.2. Ro APIs

2.2.1. CreateAccountingRequest

```
RfAPIReturnVal_t CreateAccountingRequest(DAPI-HANDLE-DIAM-MSG* phDiaMsgACR,  
ACR_Params_t oACR_Param);
```

Purpose

The purpose of this API is create a Diameter Message of type Accounting Request (ACR).

Parameters

| Name | Type | In/out | Description |
|-------------|-----------------------|--------|--|
| phDiaMsgACR | DAPI-HANDLE-DIAM-MSG* | Out | This is a pointer to a Diameter message handle in which the required ACR Diameter message will be created by this API. |
| oACR_Param | ACR_Params_t | In | This is a structure containing various parameters for this API. |

Return value

The function returns 'RfAPI-Retval-Success' in case of success and 'RfAPI-Retval-Failure' in case of failure.

2.2.2. CreateAccountingAnswer

```
RfAPIRetVal_t CreateAccountingAnswer(DAPI-HANDLE-DIAM-MSG* phDiaMsgACA ,  
ACA_Params_t oACA_Param);
```

Purpose

The purpose of this API is create a Diameter Message of type Accounting Answer (ACA).

Parameters

| Name | Type | In/out | Description |
|-------------|-----------------------|--------|--|
| phDiaMsgACA | DAPI-HANDLE-DIAM-MSG* | Out | This is a pointer to a Diameter message handle in which the required ACA Diameter message will be created by this API. |
| oACA_Param | ACA_Params_t | In | This is a structure containing various parameters for this API. |

Return value

The function returns 'RfAPI-Retval-Success' in case of success and 'RfAPI-Retval-Failure' in case of failure.