
Application Programming Interface Document

Offline Charging System API Specification

Version 1.0

Document Information**Document Sign Off**

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Document Information

Version #	1.0
Revision Date	April 22,2008
Prepared By	Qamar Ejaz.

History

Document Version Control

Date	Revision	Author	Description
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

```
RfAPIReturnVal_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.