Oracle® Communications Billing and Revenue Management

ECE 5G CHF Protocol Implementation Conformance Statement

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Oracle Communications Billing and Revenue Management ECE 5G CHF Protocol Implementation Conformance Statement, Release 12.0

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Contents

Preface

This guide serves as a protocol implementation compliance statement (PICS) for Oracle Communications Billing and Revenue Management Elastic Charging Engine (ECE) HTTP/2 Gateway for 5G. 5G CHF supports Nchf interfaces for converged charging and spending limit control for policy. Interactions with Network Repository Function is also listed in this document.

Audience

This guide is intended for system administrators, product integrators, and developers. Readers must be familiar with the following:

- Elastic Charging Engine

- 5G Service based Network Function architecture

- 5G Charging Function interfaces

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How to Read the Status in Section Compliance Sections

The below table describes the meaning of the status in section compliance sections.

If the status says	It means
Supported	Application supports functionality.
	Application supports the attribute and is mapped to ECE charging function. The attribute is received in the request and used in the charging flows. This attribute is sent in the response as indicated by the specifications. You can optionally leverage this attribute for storing in the event, and to make charging decisions.
Supported with Extensions	Application supports functionality with extension.
	Application supports the attribute and may be leveraged optionally for selecting a price. The attribute is received in the request and is not used in the out-of-the-box charging flow.
	The attribute may or may not be sent in the response. You may optionally leverage available extensions in the charging flow to achieve the intended functionality.
	You can optionally leverage this attribute for storing in the event, and for making charging decisions.
Not Supported	Application does not support the functionality.
	Application does not support the attribute.
Not Applicable	The section is not applicable for the implementation.
Informational	This section is for informational purpose only in the specifications document.

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Charging Function – Charging Service

> ⚠️ **Caution:**
>
> Deploying charging for 5G with HTTP Gateway (5G CHF) requires a cloud native deployment of ECE and BRM components. The HTTP Gateway can be used only on an ECE cloud native system.

The following table describes the section compliance of 5G System Charging Service 3GPP TS 32.291 v16.5.1 (2020-09).

Section Compliance

Table 1-1   5G System Charging Service 3GPP TS 32.291 v16.5.1 (2020-09) Section Compliance

Section Number	Section	Status	Notes
1	Scope	Informational	-
2	References	Informational	-
3	Definitions, symbols and abbreviations	Informational	-
4	Overview	Supported	-
5	Services offered by CHF	Supported	-
5.1	Introduction	Supported	-
5.2	Nchf_ConvergedCharging service	Supported	-
5.2.1	Service description	Supported	-
5.2.2	Service operations	Supported	-
5.2.2.1	Introduction	Supported	-
5.2.2.2	Nchf_ConvergedCharging_Create Operation	Supported	-
5.2.2.3	Nchf_ConvergedCharging_Update Operation	Supported	-
5.2.2.4	Nchf_ConvergedCharging_Release Operation	Supported	-
5.2.2.5	Nchf_ConvergedCharging_Notify Operation	Supported	-
5.3	Nchf_OfflineOnlyCharging service	Supported	-
5.3.1	Service description	Supported	-
5.3.2	Service operations	Supported	-
5.3.2.1	Introduction	Supported	-
5.3.2.2	Nchf_OfflineOnlyCharging_Create Operation	Supported	-
5.3.2.3	Nchf_OfflineOnlyCharging_Update Operation	Supported	-
5.3.2.4	Nchf_OfflineOnlyCharging_Release Operation	Supported	-
6	API Definitions	Supported	-
6.1	Nchf_ConvergedCharging Service API	Supported	-

Table 1-1   (Cont.) 5G System Charging Service 3GPP TS 32.291 v16.5.1 (2020-09) Section Compliance

Section Number	Section	Status	Notes
6.1.1	Introduction	Supported	-
6.1.2	Usage of HTTP	Supported	-
6.1.2.1	General	Supported	-
6.1.2.2	HTTP standard headers	Supported	-
6.1.2.2.1	General	Supported	-
6.1.2.2.2	Content type	Supported	-
6.1.2.3	HTTP custom headers	Supported	-
6.1.2.3.1	General	Supported	Only 3gpp-Sbi-Target-apiRoot header is supported among custom headers.
6.1.3	Resources	Supported	-
6.1.3.1	Overview	Supported	-
6.1.3.2	Resource: Charging Data	Supported	-
6.1.3.2.1	Description	Supported	-
6.1.3.2.2	Resource Definition	Supported	-
6.1.3.2.3	Resource Standard Methods	Supported	-
6.1.3.2.3.1	POST	Supported	ChargingDataRequest and ChargingDataResponse. The response includes one of the following codes: For success 201 (created). For failure ProblemDetails include - 400, 403, 404.
6.1.3.2.4	Resource Custom Operations	Not Applicable	-
6.1.3.3	Resource: Individual Charging Data	Supported	-
6.1.3.3.1	Description	Supported	-
6.1.3.3.2	Resource Definition	Supported	-
6.1.3.3.3	Resource Standard Methods	Not Applicable	-
6.1.3.3.4	Resource Custom Operations	Supported	-
6.1.3.3.4.1	Overview	Supported	-
6.1.3.3.4.2	Operation: update	Supported	-
6.1.3.3.4.2.1	Description	Supported	-

Table 1-1   (Cont.) 5G System Charging Service 3GPP TS 32.291 v16.5.1 (2020-09) Section Compliance

Section Number	Section	Status	Notes
6.1.3.3.4.2.2	Operation Definition	Supported	ChargingDataRequest and ChargingDataResponse. The response includes one of the following codes: For success 200 (OK). For failure ProblemDetails include - 400, 403, 404.
6.1.3.3.4.3	Operation: release	Supported	-
6.1.3.3.4.3.1	Description	Supported	-
6.1.3.3.4.3.2	Operation Definition	Supported	ChargingDataRequest and ChargingDataResponse. For success the response will be 204 (No content). For failure ProblemDetails include - 404.
6.1.4	Custom Operations without associated resources	Not Applicable	-
6.1.5	Notifications	Supported	-
6.1.5.1	General	Supported	-
6.1.5.2	Event Notification	Supported	-
6.1.5.2.1	Description	Supported	-
6.1.5.2.2	Target URI	Supported	-
6.1.5.2.3	Standard Methods	Supported	-
6.1.5.2.3.1	POST	Supported	ChargingDataRequest and ChargingDataResponse. For success the response will be 204 (No content). For failure ProblemDetails include - 404.
6.1.6	Data Model	Supported	-
6.1.6.1	General	Supported	-

Table 1-1   (Cont.) 5G System Charging Service 3GPP TS 32.291 v16.5.1 (2020-09) Section Compliance

Section Number	Section	Status	Notes
6.1.6.2	Structured data types	Supported	-
6.1.6.2.1	Common Data Type	Supported	-
6.1.6.2.1.1	Type ChargingDataRequest	Supported	-
	subscriberIdentifier	Supported	
	nfConsumerIdentification	Supported with Extensions	
	invocationTimeStamp	Supported	
	invocationSequenceNumber	Supported	
	retransmissionIndicator	Supported with Extensions	
	oneTimeEvent	Supported with Extensions	
	oneTimeEventType	Supported with Extensions	
	notifyUri	Supported	
	supportedFeatures	Supported with Extensions	
	serviceSpecificationInfo	Supported with Extensions	
	multipleUnitUsage	Supported	
	triggers	Supported with Extensions	
6.1.6.2.1.2	Type ChargingDataResponse	Supported	-
	invocationTimeStamp	Supported	
	invocationResult	Supported	
	invocationSequenceNumber	Supported	
	sessionFailover	Supported with Extensions	
	supportedFeatures	Supported with Extensions	
	multipleUnitInformation	Supported	
	triggers	Supported with Extensions	
6.1.6.2.1.3	Type ChargingNotifyRequest	Supported with Extensions	-
	notificationType	Supported with Extensions	
	reauthorizatoinDetails	Supported with Extensions	
6.1.6.2.1.4	Type NFIdentification	Supported with Extensions	-
	nodeFunctionality	Supported with Extensions	
	nFName	Supported with Extensions	
	nFIPv4Address	Supported with Extensions	
	nfIPv6Address	Supported with Extensions	
	nFFqdn	Supported with Extensions	
	nFPLMNID	Supported with Extensions	
6.1.6.2.1.5	Type MultipleUnitUsage	Supported	-
	ratingGroup	Supported	
	requestedUnit	Supported	
	usedUnitContainer	Supported	
6.1.6.2.1.6	Type InvocationResult	Supported with Extensions	-
	error (ProblemDetails)	Supported with Extensions	
	failureHandling	Supported with Extensions	

Table 1-1   (Cont.) 5G System Charging Service 3GPP TS 32.291 v16.5.1 (2020-09) Section Compliance

Section Number	Section	Status	Notes
6.1.6.2.1.7	Type Trigger triggerType triggerCategory timeLimit (DurationSec) volumeLimit volumeLimit64 maxNumberOfccc	Supported with Extensions Supported with Extensions Supported with Extensions Supported with Extensions Supported with Extensions Supported with Extensions Supported with Extensions	See 6.1.6.3.6 for supported Trigger types.
6.1.6.2.1.8	Type MultipleUnitInformation resultCode ratingGroup grantedUnit triggers validityTime (DurationSec) quotaHandlingTime (DurationSec) finalUnitIndication timeQuotaThreshold volumeQuotaThreshold unitQuotaThreshold	Supported Supported Supported Supported Supported with Extensions Supported Supported Supported Supported with Extensions Supported Supported	-
6.1.6.2.1.9	Type RequestedUnit time totalVolume uplinkVolume downLinkVolume serviceSpecificUnits	Supported Supported Supported Supported Supported Supported	-
6.1.6.2.1.10	Type UsedUnitContainer serviceId quotaManagementIndicator triggers triggerTimeStamp time totalVolume uplinkVolume downlinkVolume serviceSpecificUnits eventTimeStamps localSequenceNumber	Supported Supported Supported Supported with Extensions Supported with Extensions Supported Supported Supported Supported Supported Supported with Extensions Supported with Extensions	-

Table 1-1   (Cont.) 5G System Charging Service 3GPP TS 32.291 v16.5.1 (2020-09) Section Compliance

Section Number	Section	Status	Notes
6.1.6.2.1.11	Type GrantedUnit tariffTimeChange time totalVolume uplinkVolume downlinkVolume serviceSpecificUnits	Supported Supported Supported Supported Supported Supported Supported	-
6.1.6.2.1.12	Type FinalUnitIndication finalUnitAction restrictionFilterRule filterId redirectServer	Supported Supported Not Supported Not Supported Supported	-
6.1.6.2.1.13	Type RedirectServer redirectAddressType redirectServerAddress	Supported Supported Supported	-
6.1.6.2.1.14	Type ReauthorizationDetails service (serviceId) ratingGroup quotaManagementIndicator	Supported Supported Supported Supported	-
6.1.6.2.1.15	Void	Not applicable	-
6.1.6.2.1.16	Type ChargingNotifyResponse invocationResult	Not Supported Not Supported	
6.1.6.2.2	5G Data Connectivity Specified Data Type	Supported	-
6.1.6.2.2.1	Type ChargingDataRequest pDUSessionChargingInformation roamingQBCInformation	Supported Supported with Extensions Supported with Extensions	The out of the box charging flow does not process records for 5G roaming.
6.1.6.2.2.2	Type ChargingDataResponse pDUSessionChargingInformation roamingQBCInformation	Supported Supported with Extensions Not Supported with Extensions	The out of the box charging flow does not process records for 5G roaming.
6.1.6.2.2.3	Type MultipleUnitUsage uPFID (NfInstanceId)	Supported Supported with Extensions	-
6.1.6.2.2.4	Type MultipleUnitInformation uPFID (NfInstanceId)	Supported Supported with Extensions	-
6.1.6.2.2.5	Type UsedUnitContainer pDUContainerInformation	Supported Supported with Extensions	-

Table 1-1 (Cont.) 5G System Charging Service 3GPP TS 32.291 v16.5.1 (2020-09) Section Compliance

Section Number	Section	Status	Notes
6.1.6.2.2.6	Type PDUSessionChargingInformation	Supported with Extensions	uetimeZone is used as the request time for the event.
	chargingId	Supported with Extensions	
	userInformation	Supported with Extensions	
	userLocationinfo	Supported with Extensions	
	userLocationTime	Supported with Extensions	
	presenceReportingAreaInformation	Supported with Extensions	
	uetimeZone	Supported with Extensions	
	pduSessionInformation	Supported with Extensions	
	unitCountInactivityTime (DurationSec)	Supported with Extensions	
	rANSecondaryRATUsageReport	Supported with Extensions	
6.1.6.2.2.7	Type UserInformation	Supported with Extensions	-
	servedGPSI	Supported with Extensions	
	servedPEI	Supported with Extensions	
	unauthenticatedFlag	Supported with Extensions	
	roamerInOut	Supported with Extensions	
6.1.6.2.2.8	Type PDUSessionInformation	Supported with Extensions	-
	networkSlicingInfo	Supported with Extensions	
	pduSessionID	Supported with Extensions	
	pduType	Supported with Extensions	
	sscMode	Supported with Extensions	
	hPlmnId	Supported with Extensions	
	servingNetworkFunctionID	Supported with Extensions	
	servingCNPlmnId	Supported with Extensions	
	ratType	Supported with Extensions	
	mAPDUNon3GPPRATType	Supported with Extensions	
	dnnId	Supported with Extensions	
	dnnSelectionMode	Supported with Extensions	
	chargingCharacteristics	Supported with Extensions	
	chargingCharacteristicsSelectionMode	Supported with Extensions	
	startTime	Supported with Extensions	
	stopTime	Supported with Extensions	
	3gppPSDataOffStatus	Supported with Extensions	
	sessionStopIndicator	Supported with Extensions	
	pduAddress	Supported with Extensions	
	Diagnostics	Supported with Extensions	
	authorizedQoSInformation	Supported with Extensions	
	subscribedQoSInformation	Supported with Extensions	
	authorizedSessionAMBR	Supported with Extensions	
	subscribedSessionAMBR	Supported with Extensions	
	mAPDUSessionInformation	Supported with Extensions	

Table 1-1   (Cont.) 5G System Charging Service 3GPP TS 32.291 v16.5.1 (2020-09) Section Compliance

Section Number	Section	Status	Notes
6.1.6.2.2.9	Type PDUContainerInformation	Supported with Extensions	-
	timeofFirstUsage	Supported with Extensions	
	timeofLastUsage	Supported with Extensions	
	qoSInformation	Supported with Extensions	
	qoSCharacteristics	Supported with Extensions	
	afChargingIdentifier	Supported with Extensions	
	afChargingString	Supported with Extensions	
	userLocationInformation	Supported with Extensions	
	uetimeZone	Supported with Extensions	
	rATType	Supported with Extensions	
	servingNodeID	Supported with Extensions	
	presenceReportingAreaInformation	Supported with Extensions	
	3gppPSDataOffStatus	Supported with Extensions	
	sponsorIdentity	Supported with Extensions	
	applicationserviceProviderIdentity	Supported with Extensions	
	chargingRuleBaseName	Supported with Extensions	
	mAPDUSteeringFunctionality	Supported with Extensions	
	mAPDUSteeringMode	Supported with Extensions	
6.1.6.2.2.10	Type NetworkSlicingInfo	Supported with Extensions	-
	sNSSAI	Supported with Extensions	
6.1.6.2.2.11	Type PDUAddress	Supported with Extensions	-
	pduIPv4Address	Supported with Extensions	
	pduIPv6AddresswithPrefix	Supported with Extensions	
	pduAddressprefixlength	Supported with Extensions	
	iPv4dynamicAddressFlag	Supported with Extensions	
	iPv6dynamicPrefixFlag	Supported with Extensions	
6.1.6.2.2.12	Type ServingNetworkFunctionID	Supported with Extensions	-
	servingNetworkFunctionInformation	Supported with Extensions	
	aMFId	Supported with Extensions	
6.1.6.2.2.13	Type RoamingQBCInformation	Supported with Extensions	-
	multipleQFIcontainer	Supported with Extensions	
	uPFID	Supported with Extensions	
	roamingChargingProfile	Supported with Extensions	

Table 1-1   (Cont.) 5G System Charging Service 3GPP TS 32.291 v16.5.1 (2020-09) Section Compliance

Section Number	Section	Status	Notes
6.1.6.2.2.14	Type MultipleQFIcontainer triggers triggerTimestamp time totalVolume uplinkVolume downlinkVolume localSequenceNumber qFIContainerInformation	Supported with Extensions Supported with Extensions Supported with Extensions Supported with Extensions Supported with Extensions Supported with Extensions Supported with Extensions Supported with Extensions Supported with Extensions	-
6.1.6.2.2.15	Type RoamingChargingProfile triggers partialRecordMethod	Supported with Extensions Supported with Extensions Supported with Extensions	The out of the box charging flow does not process records for 5G roaming
6.1.6.2.2.16	Type QFIContainerInformation qFI reportTime timeofFirstUsage timeofLastUsage qoSInformation qoSCharacteristics userLocationInformation uetimeZone presenceReportingAreaInformation rATType 3gppPSDataOffStatus 3gppChargingId diagnostics enhancedDiagnostics	Supported with Extensions Supported with Extensions Supported with Extensions Supported with Extensions Supported with Extensions Supported with Extensions Supported with Extensions Supported with Extensions Supported with Extensions Supported with Extensions Supported with Extensions Supported with Extensions Supported with Extensions Supported with Extensions Supported with Extensions	All are supported only in request, not supported in response
6.1.6.2.2.17	Type RANSecondaryRATUsageReport rANSecondaryRATType qosFlowsUsage Reports	Supported with Extensions Supported with Extensions Supported with Extensions	-
6.1.6.2.2.18	Type QosFlowsUsageReport qFI startTimestamp endTimestamp downlinkVolume uplinkVolume	Supported with Extensions Supported with Extensions Supported with Extensions Supported with Extensions Supported with Extensions Supported with Extensions	-
6.1.6.2.2.19	Type MAPDUSessionInformation mAPDUSessionIndicator aTSSSCapability	Supported with Extensions Supported with Extensions Supported with Extensions	-

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Table 1-1   (Cont.) 5G System Charging Service 3GPP TS 32.291 v16.5.1 (2020-09) Section Compliance

Section Number	Section	Status	Notes
6.1.6.2.3	SMS Specified Data Type	Supported with Extensions	-
6.1.6.2.3.1	Type ChargingDataRequest	Supported with Extensions	-
	sMSCharging Information	Supported with Extensions	
6.1.6.2.3.2	Type SMSChargingInformation	Supported with Extensions	-
	originatorInfo	Supported with Extensions	
	recipientInfo	Supported with Extensions	
	userEquipment Info	Supported with Extensions	
	userLocationInfo	Supported with Extensions	
	uetimeZone	Supported with Extensions	
	rATType	Supported with Extensions	
	sMSCAddress	Supported with Extensions	
	sMDataCodingScheme	Supported with Extensions	
	sMMessageType	Supported with Extensions	
	sMReplyPathRequested	Supported with Extensions	
	sMUserDataHeader	Supported with Extensions	
	sMStatus	Supported with Extensions	
	sMDischargeTime	Supported with Extensions	
	numberofMessagesSent	Supported with Extensions	
	sMServiceType	Supported with Extensions	
	sMSequenceNumber	Supported with Extensions	
	sMSresult	Supported with Extensions	
	submissionTime	Supported with Extensions	
	sMpriority	Supported with Extensions	
	messageReference	Supported with Extensions	
	messageSize	Supported with Extensions	
	messageClass	Supported with Extensions	
	deliveryReportRequested	Supported with Extensions	
6.1.6.2.3.3	Type OriginatorInfo	Supported with Extensions	-
	originatorSUPI	Supported with Extensions	
	originatorGPSI	Supported with Extensions	
	originatorOtherAddress	Supported with Extensions	
	originatorReceivedAddress	Supported with Extensions	
	originatorSCCPAddress	Supported with Extensions	
	sMOriginatorInterface	Supported with Extensions	
	sMOriginatorProtocolId	Supported with Extensions	

Table 1-1   (Cont.) 5G System Charging Service 3GPP TS 32.291 v16.5.1 (2020-09) Section Compliance

Section Number	Section	Status	Notes
6.1.6.2.3.4	Type RecipientInfo recipientSUPI recipientGPSI recipientOtherAddress recipientReceivedAddress recipientSCCPAddress sMDestinationInterface sMRecipientProtocolId	Supported with Extensions Supported with Extensions Supported with Extensions Supported with Extensions Supported with Extensions Supported with Extensions Supported with Extensions Supported with Extensions	-
6.1.6.2.3.5	Type SMAddressInfo sMaddressType sMaddressData sMaddressDomain	Supported with Extensions Supported with Extensions Supported with Extensions Supported with Extensions	-
6.1.6.2.3.6	Type RecipientAddress recipientAddressInfo sMaddresseeType	Supported with Extensions Supported with Extensions Supported with Extensions	-
6.1.6.2.3.7	Type MessageClass classIdentifier tokenText	Supported with Extensions Supported with Extensions Supported with Extensions	-
6.1.6.2.3.8	Type SMAddressDomain domainName 3GPPIMSIMCCMNC	Supported with Extensions Supported with Extensions Supported with Extensions	-
6.1.6.2.3.9	Type SMInterface interfaceId interfaceText interfacePort interfaceType	Supported with Extensions Supported with Extensions Supported with Extensions Supported with Extensions Supported with Extensions	-
6.1.6.2.4	5G connection and mobility Specified Data	Not Supported	-
6.1.6.2.4.1	Type ChargingDataRequest ChargingDataRequest ChargingDataRequest ChargingDataRequest	Not Supported Not Supported Not Supported Not Supported	-
6.1.6.2.4.2	Type ChargingDataResponse	Not Supported	-

Table 1-1   (Cont.) 5G System Charging Service 3GPP TS 32.291 v16.5.1 (2020-09) Section Compliance

Section Number	Section	Status	Notes
6.1.6.2.4.3	Type RegistrationChargingInformation	Not Supported	-
	registrationMessagetype	Not Supported	
	userInformation	Not Supported	
	userLocationinfo	Not Supported	
	uetimeZone	Not Supported	
	rATType	Not Supported	
	5gMMCapability	Not Supported	
	mICOModeIndication	Not Supported	
	smsIndication	Not Supported	
	taiList	Not Supported	
	serviceAreaRestriction	Not Supported	
	requestedNSSAI	Not Supported	
	allowedNssai	Not Supported	
	rejectedNSSAI	Not Supported	
6.1.6.2.4.4	Type N2ConnectionChargingInformation	Not Supported	-
	n2ConnectionMessageType	Not Supported	
	userInformation	Not Supported	
	userLocationinfo	Not Supported	
	uetimeZone	Not Supported	
	rATType	Not Supported	
	amfUeNgapId	Not Supported	
	ranUeNgapId	Not Supported	
	ranNodeId	Not Supported	
	restrictedRatList	Not Supported	
	forbiddenAreaList	Not Supported	
	serviceAreaRestriction	Not Supported	
	restrictedCnList	Not Supported	
	allowedNssai	Not Supported	
	rrcEstCause	Not Supported	
6.1.6.2.4.5	Type LocationReportingChargingInformation	Not Supported	-
	locationReportingMessageType	Not Supported	
	userInformation	Not Supported	
	userLocation	Not Supported	
	infouetimeZone	Not Supported	
	presenceReportingAreaInformation	Not Supported	
	rATType	Not Supported	
6.1.6.2.5	Exposure Function Northbound API Specified	Not Supported	-
6.1.6.2.5.1	Type ChargingDataRequest	Not Supported	-
6.1.6.2.5.1a	Type ChargingDataResponse	Not Supported	-

Table 1-1   (Cont.) 5G System Charging Service 3GPP TS 32.291 v16.5.1 (2020-09) Section Compliance

Section Number	Section	Status	Notes
6.1.6.2.5.2	Type NEFChargingInformation	Not Supported	-
	groupIdentifier	Not Supported	
	aPIDirection	Not Supported	
	aPITargetNetworkFunction	Not Supported	
	aPIResultCode	Not Supported	
	aPIName	Not Supported	
	aPIReference	Not Supported	
	aPIContent	Not Supported	
6.1.6.2.6	Network Slice Management (NSM) Specified Data Type	Not Supported	-
6.1.6.2.6.1	Type ChargingDataRequest	Not Supported	-
	tenantIdentifier	Not Supported	
	mnSConsumerIdentifier	Not Supported	
	nSMChargingInformation	Not Supported	
6.1.6.2.6.2	Type ChargingDataResponse	Not Supported	-
6.1.6.2.6.3	Type NSMChargingInformation	Not Supported	-
	managementOperation	Not Supported	
	idNetworkSliceInstance	Not Supported	
	listOfServiceProfileChargingInformation	Not Supported	
	managementOperationStatus	Not Supported	
	operationalState	Not Supported	
	administrativeState	Not Supported	

Table 1-1   (Cont.) 5G System Charging Service 3GPP TS 32.291 v16.5.1 (2020-09) Section Compliance

Section Number	Section	Status	Notes
6.1.6.2.6.4	Type ServiceProfileChargingInformation	Not Supported	-
	serviceProfileIdentifier	Not Supported	
	sNSSAIList	Not Supported	
	latency	Not Supported	
	availability	Not Supported	
	resourceSharingLevel	Not Supported	
	jitter	Not Supported	
	reliability	Not Supported	
	maxNumberofUEs	Not Supported	
	coverageArea	Not Supported	
	uEMobilityLevel	Not Supported	
	delayToleranceIndicator	Not Supported	
	dLThptPerSlice	Not Supported	
	dLThptPerUE	Not Supported	
	uLThptPerSlice	Not Supported	
	uLThptPerUE	Not Supported	
	maxNumberofPDUsessions	Not Supported	
	kPIMonitoringList	Not Supported	
	supportedAccessTechnology	Not Supported	
	v2XCommunicationModeIndicator	Not Supported	
	addServiceProfileChargingInfo	Not Supported	
6.1.6.2.6.5	Type Throughput	Not Supported	-
	guaranteedThpt	Not Supported	
	maximumThpt	Not Supported	
6.1.6.2.7	NS performance and analytics Specified Data Type	Not Supported	-
6.1.6.2.7.1	Type ChargingDataRequest	Not Supported	-
	tenantIdentifier	Not Supported	
	nSPAChargingInformation	Not Supported	
6.1.6.2.7.2	Type ChargingDataResponse	Not Supported	-
6.1.6.2.7.3	Type UsedUnitContainer	Not Supported	-
	nSPAContainerInformation	Not Supported	
6.1.6.2.7.4	Type NSPAChargingInformation	Not Supported	-
	singleNSSAI	Not Supported	

Table 1-1   (Cont.) 5G System Charging Service 3GPP TS 32.291 v16.5.1 (2020-09) Section Compliance

Section Number	Section	Status	Notes
6.1.6.2.7.5	Type NSPAContainerInformation latency throughput maximumPacketLossRate serviceExperienceStatisticsData theNumberOfPDUSessions theNumberOfRegisteredSubscribers loadLevel	Not Supported Not Supported Not Supported Not Supported Not Supported Not Supported Not Supported Not Supported	-
6.1.6.3	Simple data types and enumerations	Supported	-
6.1.6.3.1	Introduction	Supported	-
6.1.6.3.2	Simple data types Diagnostics IPFilterRule N2ConnectionMessageType LocationReportingMessageType	Supported with Extensions Supported with Extensions Supported with Extensions Supported with Extensions Supported with Extensions	-
6.1.6.3.3	Enumeration: NotificationType	Supported	-
6.1.6.3.4	Enumeration: NodeFunctionality	Supported	-
6.1.6.3.5	Enumeration: ChargingCharacteristicsSelectionMode	Supported	-
6.1.6.3.6	Enumeration: TriggerType	Supported	FINAL, RAT_CHANGE, and TARIFF_TIME_CHANGE are supported. Other trigger types are supported with extensions.
6.1.6.3.7	Enumeration: FinalUnitAction	Supported	-
6.1.6.3.8	Enumeration: RedirectAddressType	Supported	-
6.1.6.3.9	Enumeration: TriggerCategory	Supported	-
6.1.6.3.10	Enumeration: QuotaManagementIndicator	Supported	-
6.1.6.3.11	Enumeration: FailureHandling	Supported	-
6.1.6.3.12	Enumeration: SessionFailover	Supported	-
6.1.6.3.13	Enumeration: 3GPPPSDataOffStatus	Supported	-
6.1.6.3.14	Enumeration: ResultCode	Supported	-
6.1.6.3.15	Enumeration: PartialRecordMethod	Supported	-
6.1.6.3.16	Enumeration: RoamerInOut	Supported	-
6.1.6.3.17	Void	Supported	-
6.1.6.3.18	Enumeration: SMMessageType	Supported	-
6.1.6.3.19	Enumeration: SMPriority	Supported	-
6.1.6.3.20	Enumeration: DeliveryReportRequested	Supported	-
6.1.6.3.21	Enumeration: InterfaceType	Supported	-

Table 1-1   (Cont.) 5G System Charging Service 3GPP TS 32.291 v16.5.1 (2020-09) Section Compliance

Section Number	Section	Status	Notes
6.1.6.3.22	Enumeration: ClassIdentifier	Supported	-
6.1.6.3.23	Enumeration: SMAddressType	Supported	-
6.1.6.3.24	Enumeration: SMAddresseeType	Supported	-
6.1.6.3.25	Enumeration: SMServiceType	Supported	-
6.1.6.3.26	Enumeration: ReplyPathRequested	Supported	-
6.1.6.3.27	Enumeration: DnnSelectionMode	Supported	-
6.1.6.3.28	Enumeration: EventType	Supported	-
6.1.6.3.29	Enumeration: MICOModeIndication	Supported	-
6.1.6.3.30	Enumeration: RegistrationMessageType	Supported	-
6.1.6.3.31	Enumeration: SmsIndication	Supported	-
6.1.6.3.32	Enumeration: APIDirection	Supported	-
6.1.6.3.33	Enumeration: ManagementOperation	Supported	-
6.1.6.3.34	Enumeration: ManagementOperationStatus	Supported	-
6.1.6.4	Data types describing alternative data types or combinations of data types	Not Applicable	-
6.1.6.5	Binary data	Not Applicable	-
6.1.7	Error handling	Supported	-
6.1.7.1	General	Supported	-
6.1.7.2	Protocol Errors	Not Applicable	-
6.1.7.3	Application errors	Supported	-
6.1.8	Feature negotiation	Not Supported	-
6.2	Nchf_OfflineOnlyCharging Service API	Supported	-
6.2.1	Introduction	Supported	-
6.2.2	Usage of HTTP	Supported	-
6.2.3	Resources	Supported	-
6.2.3.1	Overview	Supported	-
6.2.3.2	Resource: Charging Data	Supported	-
6.2.3.2.1	Description	Supported	-
6.2.3.2.2	Resource Definition	Supported	-
6.2.3.2.3	Resource Standard Methods	Supported	-
6.2.3.2.3.1	POST	Supported	ChargingDataRequest and ChargingDataResponse. The response includes one of the following codes: For success 201 (created). For failure ProblemDetails include - 400, 403, and 404.

Table 1-1   (Cont.) 5G System Charging Service 3GPP TS 32.291 v16.5.1 (2020-09) Section Compliance

Section Number	Section	Status	Notes
6.2.3.2.4	Resource Custom Operations	Not Applicable	-
6.2.3.3	Resource: Individual Offline Only Charging Data	Supported	-
6.2.3.3.1	Description	Supported	-
6.2.3.3.2	Resource Definition	Supported	-
6.2.3.3.3	Resource Standard Methods	Not Applicable	-
6.2.3.3.4	Resource Custom Operations	Supported	-
6.2.3.3.4.1	Overview	Supported	-
6.2.3.3.4.2	Operation: update	Supported	-
6.2.3.3.4.2.1	Description	Supported	-
6.2.3.3.4.2.2	Operation Definition	Supported	ChargingDataRequest and ChargingDataResponse. The response includes one of the following codes: For success 200 (OK). For failure ProblemDetails include - 400, 403, and 404.
6.2.3.3.4.3	Operation: release	Supported	-
6.2.3.3.4.3.1	Description	Supported	-
6.2.3.3.4.3.2	Operation Definition	Supported	ChargingDataRequest and ChargingDataResponse. For success the response will be 204 (No content). For failure ProblemDetails include - 404.
6.2.4	Custom Operations without associated resources	Not Applicable	-
6.2.5	Data Model	Supported	-
6.2.5.1	General	Supported	-
6.2.5.2	Structured data types	Supported	-
6.2.5.2.1	Common Data Type	Supported	-

Table 1-1   (Cont.) 5G System Charging Service 3GPP TS 32.291 v16.5.1 (2020-09) Section Compliance

Section Number	Section	Status	Notes
6.2.5.2.1.1	Type ChargingDataRequest subscriberIdentifier nfConsumerIdentification invocationTimeStamp invocationSequenceNumber serviceSpecificationInformation multipleUnitUsage triggers	Supported Supported Supported with Extensions Supported Supported Supported with Extensions Supported Supported with Extensions	-
6.2.5.2.1.2	Type ChargingDataResponse invocationTimeStamp invocationResult invocationSequenceNumber sessionFailover triggers	Supported Supported Supported Supported Supported with Extensions Supported with Extensions	-
6.2.5.2.1.3	Type MultipleUnitUsage ratingGroup usedUnitContainer	Supported Supported Supported	-
6.2.5.2.1.4	Type UsedUnitContainer serviceId triggers triggerTimeStamp time totalVolume uplinkVolume downlinkVolume serviceSpecificUnits eventTimeStamps localSequenceNumber	Supported Supported Supported Supported with Extensions Supported Supported Supported Supported Supported Supported with Extensions Supported with Extensions	-
6.2.5.2.1.5	Type Trigger triggerType triggerCategory timeLimit (DurationSec) volumeLimit64 eventLimit maxNumberOfccc	Supported with Extensions Supported with Extensions Supported with Extensions Supported with Extensions Supported with Extensions Supported with Extensions Supported with Extensions	See 6.2.5.3.5 for supported Trigger types.
6.2.5.2.2	5G Data Connectivity Specified Data Type	Supported	-
6.2.5.2.2.1	Type ChargingDataRequest	-	Same as 6.1.6.2.2.1
6.2.5.2.2.2	Type ChargingDataResponse	-	Same as 6.2.5.2.1.2

Table 1-1   (Cont.) 5G System Charging Service 3GPP TS 32.291 v16.5.1 (2020-09) Section Compliance

Section Number	Section	Status	Notes
6.2.5.2.2.3	Type MultipleUnitUsage	-	Same as 6.2.5.2.1.3
6.2.5.2.2.4	Type UsedUnitContainer	-	Same as 6.2.5.2.1.4
6.2.5.2.2.5	Type PDUSessionChargingInformation	-	Same as 6.1.6.2.2.6
6.2.5.2.2.6	Type UserInformation	-	Same as 6.1.6.2.2.7
6.2.5.2.2.7	Type PDUSessionInformation	-	Same as 6.1.6.2.2.8
6.2.5.2.2.8	Type PDUContainerInformation	-	Same as 6.1.6.2.2.9
6.2.5.2.2.9	Type NetworkSlicingInfo	-	Same as 6.1.6.2.2.10
6.2.5.2.2.10	Type PDUAddress	-	Same as 6.1.6.2.2.11
6.2.5.2.2.11	Type ServingNetworkFunctionID	-	Same as 6.1.6.2.2.12
6.2.5.2.2.12	Type RoamingQBCInformation	-	Same as 6.1.6.2.2.13
6.2.5.2.2.13	Type MultipleQFIcontainer	-	Same as 6.1.6.2.2.14
6.2.5.2.2.14	Type RoamingChargingProfile	-	Same as 6.1.6.2.2.15
6.2.5.2.2.15	Type QFIContainerInformation	-	Same as 6.1.6.2.2.16
6.2.5.2.2.16	Type RANSecondaryRATUsageReport	-	Same as 6.1.6.2.2.17
6.2.5.2.2.17	Type QosFlowsUsageReport	-	Same as 6.1.6.2.2.18
6.2.5.3	Simple data types and enumerations	Supported	-
6.2.5.3.1	Introduction	Supported	-
6.2.5.3.2	Simple data types	-	Same as 6.1.6.3.2
6.2.5.3.3	Enumeration: ChargingCharacteristicsSelectionMode	-	Same as 6.1.6.3.5
6.2.5.3.4	Enumeration: NodeFunctionality	Supported	-
6.2.5.3.5	Enumeration: TriggerType	Supported	FINAL, RAT_CHANGE and TARIFF_TIME_ CHANGE are supported. Other trigger types are supported with extensions.

Table 1-1   (Cont.) 5G System Charging Service 3GPP TS 32.291 v16.5.1 (2020-09) Section Compliance

Section Number	Section	Status	Notes
6.2.5.3.6	Enumeration: ResultCode	Supported	-
6.2.5.3.7	Enumeration: 3GPPPSDataOffStatus	-	Same as 6.1.6.3.13
6.2.5.3.8	Enumeration: PartialRecordMethod	-	Same as 6.1.6.3.15
6.2.5.3.9	Enumeration: RoamerInOut	-	Same as 6.1.6.3.16
6.2.5.3.10	Enumeration: SubscriberIdentityType	-	Same as 6.1.6.3.17
6.2.6	Error handling	Supported	-
6.2.6.1	General	Supported	-
6.2.6.2	Protocol Errors	Not Applicable	-
6.2.6.3	Application errors	Supported	-
6.2.7	Feature negotiation	Not Supported	-
7	Bindings of CDR field, Information Element and Resource Attribute	Supported	-
7.0	General	Supported	-
7.1	Bindings of common CDR field, Information Element and Resource Attribute	Supported	-
7.2	Bindings for 5G data connectivity	Supported	-
7.3	Bindings for SMS charging	Not Supported	-
7.4	Bindings for 5G connection and mobility	Not Supported	-
7.5	Bindings for Exposure Function Northbound API charging	Not Supported	-
7.6	Bindings for NS performance and Analytics charging	Not Supported	-
8.0	Security	Not Supported	OAuth2 is not supported.

Response Codes

Table 1-2   Response Codes

Response codes	Description
201 Created (Create)	The creation of a Charging Data resource is confirmed, and a representation of that resource is returned. The Charging Data resource which is created and returned successfully. The representation of created resource is identified via Location header field in the 201 response.
200 OK (Updates)	The modification of a Charging Data resource is confirmed, and a representation of that resource is returned. The Charging Data resource which is modified and returned successfully.

Table 1-2   (Cont.) Response Codes

Response codes	Description
204 No Content (Release)	The Charging Data resource matching the ChargingDataRef is modified and then released.
400 Bad Request	CHARGING_FAILED: The HTTP request is rejected because the set of session or subscriber information needed by the CHF for charging or CDR creation is incomplete or erroneous or not available(for example, Rating Group, subscriber information).
	RE_AUTHORIZATION_FAILED: The HTTP request is rejected because the set of information needed by the NF Consumer (CTF) to report the usage is incomplete or erroneous or not available.
403 Forbidden	CHARGING_NOT_APPLICABLE: The HTTP request is rejected by the CHF since it has been determined that the service can be granted to the end user without any charging or CDR creation.
	END_USER REQUEST_DENIED: The HTTP request denied by the CHF due to restrictions or limitations related to the end-user.
	QUOTA_LIMIT_REACHED: The HTTP request denied by the CHF because the end user's account could not cover the requested service. If the request contained used units they are deducted, if applicable.
	END_USER_REQUEST_REJECTED: The HTTP request rejected by the CHF due to end-user restrictions or limitations.
404 Not Found	USER_UNKNOWN: The HTTP request is rejected because the end user specified in the request cannot be served by the CHF.
500 Internal Server Error	Common Application Error

2

Charging Function – Spending Limit Control Service

> ⚠️ **Caution:**
>
> Deploying the 5G Spending Limit Control Service with HTTP Gateway (5G CHF) requires a cloud native deployment of ECE and BRM components. The HTTP Gateway can be used only on an ECE cloud native system.

The following table describes the section compliance of 5G System Charging Service 3GPP TS 29.594 v16.3.0 (2020-09).

Section Compliance

Table 2-1   5G System Charging Service 3GPP TS 29.594 v16.3.0 (2020-09) Section Compliance

Section Number	Section	Status	Notes
1	Scope	Informational	-
2	References	Informational	-
3	Definitions and abbreviations	Informational	-
4	Nchf_SpendingLimitControl Service	Supported	-
4.1	Service Description	Supported	-
4.1.1	Overview	Supported	-
4.1.2	Service Architecture	Supported	-
4.1.3	Network Functions	Supported	-
4.1.3.1	Charging Function (CHF)	Supported	-
4.1.3.2	NF Service Consumers	Supported	-
4.2	Service Operations	Supported	-
4.2.1	Introduction	Supported	-
4.2.2	Nchf_SpendingLimitControl_Subscribe service operation	Supported	-
4.2.2.1	General	Supported	-
4.2.2.2	Initial spending limit retrieval	Supported	-
4.2.2.3	Intermediate spending limit report retrieval	Supported	-
4.2.3	Nchf_SpendingLimitControl_Unsubscribe service operation	Supported	-
4.2.3.1	General	Supported	-
4.2.3.2	Unsubscribe from spending limit reporting	Supported	-

Table 2-1 (Cont.) 5G System Charging Service 3GPP TS 29.594 v16.3.0 (2020-09) Section Compliance

Section Number	Section	Status	Notes
4.2.4	Nchf_SpendingLimitControl_Notify service operation	Supported	-
4.2.4.1	General	Supported	-
4.2.4.2	Spending limit report	Supported	-
4.2.4.3	Subscription termination request by CHF	Not Supported	-
5	Nchf_SpendingLimitControl Service API	Supported	-
5.1	Introduction	Supported	-
5.2	Usage of HTTP	Supported	-
5.2.1	General	Supported	-
5.2.2	HTTP standard headers	Supported	-
5.2.2.1	General	Supported	-
5.2.2.2	Content type	Supported	-
5.2.3	HTTP custom headers	Supported	-
5.2.3.1	General	Supported	Only 3gpp-Sbi-Target-apiRoot header is supported among custom headers.
5.3	Resources	Supported	-
5.3.1	Resource Structure	Supported	-
5.3.2	Resource: Spending Limit Retrieval Subscriptions (Collection)	Supported	-
5.3.2.1	Description	Supported	-
5.3.2.2	Resource Definition	Supported	-
5.3.2.3	Resource Standard Methods	Supported	-
5.3.2.3.1	POST	Supported	POST request with SpendingLimitContext to create a new individual spending limit retrieval subscription. POST Response to contain SpendingLimitStatus as 201 (Created), ProblemDetails with 400 (Bad Request).
5.3.2.4	Resource Custom Operations	Not Applicable	-
5.3.3	Resource: Individual Spending Limit Retrieval Subscription (Document)	Supported	-
5.3.3.1	Description	Supported	-
5.3.3.2	Resource definition	Supported	-
5.3.3.3	Resource Standard Methods	Supported	-

Table 2-1   (Cont.) 5G System Charging Service 3GPP TS 29.594 v16.3.0 (2020-09) Section Compliance

Section Number	Section	Status	Notes
5.3.3.3.1	PUT	Supported	PUT request with SpendingLimitContext to modify the existing individual spending limit retrieval subscription. POST Response to contain SpendingLimitStatus as 200 (OK), ProblemDetails with 400 (Bad Request).
5.3.3.3.2	DELETE	Supported	DELETE request. DELETE Response to contain 204 (No Content). Successful case: The individual spending limit subscription matching the subscriptionId was deleted.
5.4	Customer Operations without associated resources	Not Applicable	-
5.5	Notifications	Supported	-
5.5.1	General	Supported	Terminate is not supported
5.5.2	Spending limit notification	Supported	-
5.5.2.1	Description	Supported	-
5.5.2.2	Target URI	Supported	-
5.5.2.3	Standard Methods	Supported	-
5.5.2.3.1	POST	Supported	POST request with SpendingLimitStatus for the policy counters. POST Response to contain 204 (no Content) and the receipt of the notification is acknowledged.
5.5.3	Subscription Termination	Not Supported	-
5.5.3.1	Description	Supported	-
5.5.3.2	Target URI	Supported	-
5.5.3.3	Standard Methods	Supported	-

**Table 2-1   (Cont.) 5G System Charging Service 3GPP TS 29.594 v16.3.0 (2020-09) Section
Compliance**

Section Number	Section	Status	Notes
5.5.3.3.1	POST	Supported	POST request with SubscriptionTerminationInfo for deletion of a resource. POST Response to contain 204 (no Content) and the receipt of the notification is acknowledged.
5.6	Data Model	Supported	-
5.6.1	General DateTime Uri Supi Gpsi SupportedFeatures	Supported Supported Supported Supported Supported Supported	-
5.6.2	Structured data types	Supported	-
5.6.2.1	Introduction	Supported	-
5.6.2.2	Type SpendingLimitContext supi gpsi policyCounterIds notifUri expiry supportedFeatures	Supported Supported Supported Supported Supported Supported with Extensions Supported with Extensions	-
5.6.2.3	Type SpendingLimitStatus supi statusInfos expiry supportedFeatures	Supported Supported Supported with Extensions Supported with Extensions Supported with Extensions	-
5.6.2.4	Type PolicyCounterInfo policyCounterId currentStatus penPolCounterStatuses	Supported Supported Supported Supported	-
5.6.2.5	Type PendingPolicyCounterStatus policyCounterStatus activationTime	Supported Supported Supported	-
5.6.2.6	Type SubscriptionTerminationInfo Supi termCause	Not Supported Not Supported Not Supported	-
5.6.3	Simple data types and enumerations	Supported	-
5.6.3.1	Introduction	Supported	-

Table 2-1   (Cont.) 5G System Charging Service 3GPP TS 29.594 v16.3.0 (2020-09) Section Compliance

Section Number	Section	Status	Notes
5.6.3.2	Simple data types	Supported	-
	PolicyCounterId	Supported	
5.6.3.3	Enumeration: TerminationCause	Not Supported	-
5.7	Error handling	Supported	-
5.7.1	General	Supported	-
5.7.2	Protocol Errors	Not Applicable	-
5.7.3	Application Errors	Supported	-
5.8	Feature negotiation	Not Supported	-
5.9	Security	Not Supported	OAuth2 is not supported.

Response Codes

Table 2-2   Response Codes

Response codes	Description
201 Created (Create)	SUCCESS: The spending limit subscription was created, and spending limit reports are provided.
200 OK (Updates)	The individual spending limit subscription was modified, and spending limit reports are provided.
204 No Content (Release)	Please see individual operations
400 Bad Request	USER_UNKNOWN: The subscriber specified in the request is not known at the CHF and the subscription cannot be created.
	NO_AVAILABLE_POLICY_COUNTERS: There are no policy counters available for the subscriber at the CHF
500 Internal Server Error	Common Application Error

3

Charging Function – Interactions with Network Repository Function (NRF)

> ⚠️ **Caution:**
>
> Deploying charging for 5G with HTTP Gateway (5G CHF) requires a cloud native deployment of ECE and BRM components. The HTTP Gateway can be used only on an ECE cloud native system.

The following table describes the services supported by CHF as a consumer Network Function for interacting with NRF, based on 5G System Network Function Repository Services 3GPP TS 29.510 v16.5.0 (2020-09).

Section Compliance

Table 3-1   Services Supported by CHF as a Consumer Network Function

Section Number	Section	Status	Notes
5	Services Offered by the NRF	Supported	-
5.1	Introduction	Supported	Only NFManagement Service with operations NFRegister, NFUpdate, NFDeregister, and NFListRetrieval are supported.
5.2	Nnrf_NFManagement Service	Supported	-
5.2.1	Service Description	Supported	-
5.2.2	Service Operations	Supported	-
5.2.2.1	Introduction	Supported	-
5.2.2.2	NFRegister	Supported	-
5.2.2.2.1	General	Supported	-
5.2.2.2.2	NF (other than NRF) registration to NRF	Supported	-
5.2.2.3	NFUpdate	Supported	-
5.2.2.3.1	General	Supported	-
5.2.2.3.2	NF Heart-Beat	Supported	-
5.2.2.4	NFDeregister	Supported	-
5.2.2.4.1	General	Supported	-
5.2.2.5	NFStatusSubscribe	Not Supported	-
5.2.2.6	NFStatusNotify	Not Supported	-
5.2.2.7	NFStatusUnsubscribe	Not Supported	-

Table 3-1 (Cont.) Services Supported by CHF as a Consumer Network Function

Section Number	Section	Status	Notes
5.2.2.8	NFListRetrieval	Supported	-
5.2.2.8.1	General	Supported	-
5.2.2.9	NFProfileRetrieval	Not Supported	-
5.2.2.9.1	General	Not Supported	-

4

CHF-CDR Format

> ⚠️ **Caution:**
>
> Deploying charging for 5G with HTTP Gateway (5G CHF) requires a cloud native deployment of ECE and BRM components. The HTTP Gateway can be used only on an ECE cloud native system.

The following table describes the conformance status for the fields in the 3GPP Charging Function Call Detail Record (CHF-CDR), taken from the 3GPP TS 32.298 version 16.5.0 specification. You can configure Oracle Communications Elastic Charging Engine (ECE) to generate CHF-CDRs. See "Generating CDRs" in *ECE Implementing Charging*.

Table 4-1   CHF-CDR Format

Field	Status
Record Type	Supported
Recording Network Function ID	Not supported
Charging Session Identifier	Supported
Subscriber Identifier	Supported
NF Consumer Information	Supported
NF Functionality	Supported
NF Name	Supported
NF Address	Supported
NF PLMN ID	Supported
Triggers	Supported
SMF Triggers	Supported
List of Multiple Unit Usage	Supported
Rating Group	Supported
Used Unit Container	Supported
Service Identifier	Supported
Quota management Indicator	Supported
Local Sequence Number	Supported
Time	Supported
Uplink Volume	Supported
Downlink Volume	Supported
Total Volume	Supported
Service Specific Units	Supported
Event Time Stamp	Supported
Rating Indicator	Supported
Triggers	Supported

Table 4-1   (Cont.) CHF-CDR Format

Field	Status
SMF Triggers	Supported
Trigger Time Stamp	Supported
PDU Container Information	Supported
UPF ID	Supported
Record Opening Time	Supported
Duration	Supported
Record Sequence Number	Supported
Cause for Record Closing	Supported
Local Record Sequence Number	Supported
Record Extensions	Not supported
Service Specification Information	Supported
PDU Session Charging Information	Supported
Roaming QBC Information	Supported
SMS Charging Information	Supported
Registration Charging Information	Not supported
N2 connection charging Information	Not supported
Location reporting charging Information	Not supported