

CHA Access Performance Management Function Guide

Used in containerized deployment

User Guide

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1 CHA Performance Management Introduction

CHA generates performance metrics used to measure the behavior and performance of the system. Metrics are also used to generate alarms when values go over or under a specified threshold. Recording rules are an aggregation of multiple metrics to allow for even more useful data points.



2 Charging Access Metrics

Access metrics used in containerized deployment.

Table 1 Charging Access Metrics

Metric name	Metric description	Type	Metric Labels	Metric Label Description
cha_access_balance_enquiry_http_requests_total	Number of requests received over the balance enquiry external interface.	Counter	method	The HTTP Verb. Possible values: GET, POST
			resource	Resource on which the operation is performed. Possible values: customer, contract, product, balanceSnapshot, partyRole.
cha_access_balance_enquiry_http_requests_errors_total	Number of failure responses sent for requests over the balance enquiry external interface.	Counter	code	HTTP Response Code
			method	The HTTP Verb. Possible values: GET, POST
			resource	Resource on which the operation is performed. Possible values: customer, contract, product, balanceSnapshot, partyRole.



Table 1 Charging Access Metrics

Metric name	Metric description	Type	Metric Labels	Metric Label Description
cha_access_balance_enquiry_http_request_duration_seconds	Average time taken to process a request received over the balance enquiry external interface. The unit of measurement is milliseconds.	Summary	method	The HTTP Verb. Possible values: GET, POST
			resource	Resource on which the operation is performed. Possible values: customer, contract, product, balanceSnapshot, partyRole.
cha_access_balance_adjustment_http_requests_total	Number of requests received over the balance adjustment external interface.	Counter	method	The HTTP Verb. Possible values: POST, PUT
			resource	Resource on which the operation is performed. Possible values: billingAccountBucket, billingAccountBucketSpecification, customer, productBucket, productBucketSpecification, settlementAccountBucket, settlementAccountBucketSpecification



Table 1 Charging Access Metrics

Metric name	Metric description	Type	Metric Labels	Metric Label Description
cha_access_balance_adjustment_http_requests_errors_total	Number of failure responses sent for requests over the balance adjustment external interface.	Counter	code	HTTP Response Code
			method	The HTTP Verb. Possible values: POST, PUT
			resource	Resource on which the operation is performed. Possible values: billingAccountBucket, billingAccountBucketSpecification, customer, productBucket, productBucketSpecification, settlementAccountBucket, settlementAccountBucketSpecification
cha_access_balance_adjustment_http_request_duration_seconds	Average time taken to process a request received over the balance adjustment external interface. The unit of measurement is milliseconds.	Summary	method	The HTTP Verb. Possible values: POST, PUT



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Metric name	Metric description	Type	Metric Labels	Metric Label Description
			resource	Resource on which the operation is performed. Possible values: billingAccountBucket, billingAccountBucketSpecification, customer, productBucket, productBucketSpecification, settlementAccountBucket, settlementAccountBucketSpecification
cha_access_refill_http_requests_total	Number of requests received over the refill external interface.	Counter	method	The HTTP Verb. Possible values: GET, POST
			operation	Possible Values: refillFraud, voucherBasedRefill, voucherlessRefill
cha_access_refill_http_requests_errors_total	Number of failure responses sent for requests over the refill external interface.	Counter	code	HTTP Error Code
			method	The HTTP Verb. Possible values: GET, POST
			operation	Possible Values: refillFraud, voucherBasedRefill, voucherlessRefill



Table 1 Charging Access Metrics

Metric name	Metric description	Type	Metric Labels	Metric Label Description
cha_access_refill_http_request_duration_seconds	Average time taken to process requests received over the refill external interface. The unit of measurement is milliseconds.	Summary	method	The HTTP Verb. Possible values: GET, POST
			operation	Possible Values: refillFraud, voucherBasedRefill, voucherlessRefill
cha_access_purchase_charge_http_requests_total	Number of requests received over the purchase charge external interface.	Counter	method	The HTTP Verb. Possible values: POST, DELETE
			operation	Possible values: reservation, deduction, basketRateAndChargeReservation, basketRateAndAdvice, basketRateAndReserve, basketRateAndDeduct, basketRateAndExecute
cha_access_purchase_charge_http_requests_errors_total	Number of failure responses sent for requests over the purchase charge external interface.	Counter	code	HTTP Error Code
			method	The HTTP Verb. Possible values: POST, DELETE



Table 1 Charging Access Metrics

Metric name	Metric description	Type	Metric Labels	Metric Label Description
			operation	Possible values: reservation, deduction, basketRateAndChargeReservation, basketRateAndAdvice, basketRateAndReserve, basketRateAndDeduct, basketRateAndExecute
cha_access_purchase_charge_http_request_duration_seconds	Average time taken to process a request received over the purchase charge external interface. The unit of measurement is milliseconds.	Summary	method	The HTTP Verb. Possible values: POST, DELETE
			operation	Possible values: reservation, deduction, basketRateAndChargeReservation, basketRateAndAdvice, basketRateAndReserve, basketRateAndDeduct, basketRateAndExecute
cha_access_offline_rating_sftp_requests_total	Request counter for various operations in offline rate and charge.	Counter	operation	Possible Values: FileFetched, FileProcessed, DuplicateDetected, DuplicateDetectionRead, DuplicateDetectionWrite, ResultFileWrite, ResultFileProduced, ResultFileTransferred.



Table 1 Charging Access Metrics

Metric name	Metric description	Type	Metric Labels	Metric Label Description
			cdr_format	Possible Values: BX, JSON.
			endpoint	Location the files are fetched from.
cha_access_offline_rating_sftp_request_duration_seconds	Counter to capture average response time for various operations in offline rate and charge. The unit of measurement is milliseconds.	Summary	operation	Possible Values: FileFetched, FileProcessed, DuplicateDetected, DuplicateDetectionRead, DuplicateDetectionWrite, ResultFileWrite, ResultFileProduced, ResultFileTransferred.
			cdr_format	Possible Values: BX, JSON.
cha_access_offline_rating_cdr_requests_total	Request counter for various operations in offline rate and charge.	Counter	cdr_format	Possible Values: BX, JSON.
			record_type	Possible Values: MOcall, MOsms, MTcall, MTsms, SGSNsmo, SGSNsmt, mMO1SRecord, mMR1AFRecord, pGWRecord, PreRatedCharged.
cha_access_offline_rating_cdr_requests_errors_total	Response result counter for various operations in offline rate and charge.	Counter	code	Error Code
			cdr_format	Possible Values: BX, JSON.



Table 1 Charging Access Metrics

Metric name	Metric description	Type	Metric Labels	Metric Label Description
			record_type	Possible Values: MOcall, MOsms, MTcall, MTsms, SGSNsmo, SGSNsmt, mMO1SRecord, mMR1AFRecord, pGWRecord, PreRatedCharged.
cha_access_offline_rating_sftp_requests_errors_total	Response result counter for various operations in offline rate and charge.	Counter	operation	Possible Values: FileFetched, FileProcessed, DuplicateDetected, DuplicateDetectionRead, DuplicateDetectionWrite, ResultFileWrite, ResultFileProduced, ResultFileTransferred.
			cdr_format	Possible Values: BX, JSON.
			endpoint	Location the files are fetched from.
cha_access_offline_rating_cdr_request_duration_seconds	Counter to capture average response time for various operations in offline rate and charge. The unit of measurement is milliseconds.	Summary	cdr_format	Possible Values: BX, JSON.



Table 1 Charging Access Metrics

Metric name	Metric description	Type	Metric Labels	Metric Label Description
			record_type	Possible Values: MOcall, MOsms, MTcall, MTsms, SGSNsmo, SGSNsmt, mMO1SRecord, mMR1AFRecord, pGWRecord, PreRatedCharged.
cha_access_rating_diameter_requests_total	Number of requests received over the Online Charging Ro external interface.	Counter	requestname	Represents the RequestName that is prescribed in the configured diameter dictionary.
			endpoint	Endpoint of an external server
			service_context	Denotes name of the service context. In some error scenarios, service context name may not be available, then the value NA is set.
cha_access_rating_diameter_requests_errors_total	Number of failure responses sent for requests over the Online Charging Ro external interface.	Counter	code	Charging Diameter Result Code to represent the reason of failure.
			requestname	Represents the RequestName that is prescribed in the configured diameter dictionary.



Table 1 Charging Access Metrics

Metric name	Metric description	Type	Metric Labels	Metric Label Description
			retargeted	Represents the response has retarget information. Possible Value: Yes, No.
			endpoint	Endpoint of an external server
			service_context	Denotes name of the service context. In some error scenarios, service context name may not be available, then the value NA is set.
cha_access_rating_diameter_svc_requests_total	Number of service session requests received over the Online Charging Ro external	Counter	sub_session_id	Represents Rating-Group or Service-Identifier based on the context.
			endpoint	Endpoint of an external server
cha_access_rating_diameter_svc_requests_errors_total	Number of service session failure responses sent over the Online Charging Ro external interface.	Counter	code	Charging Diameter Result Code to represent the reason of failure.
			sub_session_id	Represents Rating-Group or Service-Identifier based on the context.
			endpoint	Endpoint of an external server



Table 1 Charging Access Metrics

Metric name	Metric description	Type	Metric Labels	Metric Label Description
cha_access_rating_diameter_request_duration_seconds	Average time taken to process a request received over the Online Charging Ro external interface. The unit of measurement is milliseconds.	Summary	requestname	Represents the RequestName that is prescribed in the configured diameter dictionary.
			endpoint	Endpoint of an external server
			service_context	Denotes name of the service context. In some error scenarios, service context name may not be available, then the value NA is set.
cha_access_online_rating_cipip_rating_diameter_requests_total	Number of requests received over the Online Charging CIPIP external interface.	Counter	requestname	Represents the RequestName that is prescribed in the configured diameter dictionary.
			endpoint	Endpoint of an external server
cha_access_online_rating_cipip_rating_diameter_requests_errors_total	Number of failure responses sent for requests over the Online Charging CIPIP external interface.	Counter	code	Charging Diameter Result Code to represent the reason of failure.
			requestname	Represents the RequestName that is prescribed in the configured diameter dictionary.



Table 1 Charging Access Metrics

Metric name	Metric description	Type	Metric Labels	Metric Label Description
			endpoint	Endpoint of an external server
cha_access_online_rating_cipip_rating_diameter_svc_requests_total	Number of service session requests received over the Online Charging CIPIP external interface.	Counter	sub_session_id	Represents service-session-Id.
			endpoint	Endpoint of an external server
cha_access_online_rating_cipip_rating_diameter_svc_requests_errors_total	Number of service session failure responses sent over the Online Charging CIPIP external interface.	Counter	code	Charging Diameter Result Code to represent the reason of failure.
			sub_session_id	Represents service-session-Id.
			endpoint	Endpoint of an external server
cha_access_online_rating_cipip_rating_diameter_request_duration_seconds	Average time taken to process a request received over the Online Charging CIPIP external interface. The unit of measurement is milliseconds.	Summary	requestname	Represents the RequestName that is prescribed in the configured diameter dictionary.
			endpoint	Endpoint of an external server
cha_access_policy_sy_diameter_requests_total	Number of requests received over the Policy Control Sy external interface.	Counter	requestname	Represents the RequestName that is prescribed in the configured diameter dictionary.
			endpoint	Endpoint of an external server



Table 1 Charging Access Metrics

Metric name	Metric description	Type	Metric Labels	Metric Label Description
cha_access_policy_sy_diameter_requests_errors_total	Number of failure responses sent for requests over the Policy Control Sy external interface.	Counter	code	Charging Diameter Result Code to represent the reason of failure.
			requestname	Represents the RequestName that is prescribed in the configured diameter dictionary.
			endpoint	Endpoint of an external server
cha_access_policy_sy_diameter_request_duration_seconds	Average time taken to process a request received over the Policy Control Sy external interface. The unit of measurement is milliseconds.	Summary	requestname	Represents the RequestName that is prescribed in the configured diameter dictionary.
			endpoint	Endpoint of an external server
cha_access_policy_esy_diameter_requests_total	Number of requests received over the Policy Control ESy external interface.	Counter	requestname	Represents the RequestName that is prescribed in the configured diameter dictionary.
			endpoint	Endpoint of an external server
cha_access_policy_esy_diameter_requests_errors_total	Number of failure responses sent for requests over the Policy Control ESy external interface.	Counter	code	Charging Diameter Result Code to represent the reason of failure.



Table 1 Charging Access Metrics

Metric name	Metric description	Type	Metric Labels	Metric Label Description
			requestname	Represents the RequestName that is prescribed in the configured diameter dictionary.
			endpoint	Endpoint of an external server
cha_access_policy_esy_diameter_request_duration_seconds	Average time taken to process a request received over the Policy Control ESy external interface. The unit of measurement is milliseconds.	Summary	requestname	Represents the RequestName that is prescribed in the configured diameter dictionary.
			endpoint	Endpoint of an external server
cha_access_cpm_id_translation_java_requests_total	Number of Customer ID Translation operations performed.	Counter	operation	Operation performed towards CPM. Possible values: TranslateId
cha_access_cpm_id_translation_java_requests_errors_total	Number of Customer ID Translation operations failed.	Counter	code	Error code to denote failure of Number Normalization or CPM Id Translation.
			operation	Operation performed towards CPM. Possible values: TranslateId



Table 1 Charging Access Metrics

Metric name	Metric description	Type	Metric Labels	Metric Label Description
cha_access_cpm_id_translation_java_request_duration_seconds	Average time taken to perform a Customer ID Translation operation. The unit of measurement is milliseconds.	Summary	operation	Operation performed towards CPM. Possible values: TranslateId
cha_access_internal_routing_akka_requests_total	Number of requests sent/received between Charging Access and Charging Core or Charging Collector.	Counter	customer_partition	Customer Partition Id
			direction	The request received IN to Charging Function or sent OUT from Charging Function. Possible Values: IN, OUT.
			target_service	The service the request was sent to (direction OUT) or received from (direction IN). Possible values: Core, Collector, NA
cha_access_internal_routing_akka_requests_errors_total	Number of requests sent/received between Charging Access and Charging Core or Charging Collector failed.	Counter	code	Error Code
			customer_partition	Customer Partition Id



Table 1 Charging Access Metrics

Metric name	Metric description	Type	Metric Labels	Metric Label Description
			direction	The request received IN to Charging Function or sent OUT from Charging Function. Possible Values: IN, OUT.
			target_service	The service the request was sent to (direction OUT) or received from (direction IN). Possible values: Core, Collector, NA
cha_access_internal_routing_akka_request_duration_seconds	Average time taken to receive the responses from Access or Core/Collector for the request sent by Core/Collector or Access respectively. The unit of measurement is milliseconds.	Summary	customer_partition	Customer Partition Id
			direction	The request received IN to Charging Function or sent OUT from Charging Function. Possible Values: IN, OUT.



Table 1 Charging Access Metrics

Metric name	Metric description	Type	Metric Labels	Metric Label Description
			target_service	The service the request was sent to (direction OUT) or received from (direction IN). Possible values: Core, Collector, NA
cha_access_cil_data_mgmt_java_requests_total	Number of CIL Data Management operations performed.	Counter	method	Method of CIL operation. Possible values: get, put
			type	Type or Classification of data being handled. Possible values: OfflineFileNames, SessionIdTranslation, Events, SessionMetadata
			partition	Customer or region partition based on the context. Possible Values: '1, 2, 3 etc.
cha_access_cil_data_mgmt_java_requests_errors_total	Number of CIL Data Management operations failed.	Counter	code	ErrorCode of an operation.
			method	Method of CIL operation. Possible values: get, put
			type	Type or Classification of data being handled. Possible values: OfflineFileNames, SessionIdTranslation, Events, SessionMetadata



Table 1 Charging Access Metrics

Metric name	Metric description	Type	Metric Labels	Metric Label Description
			partition	Customer or region partition based on the context.
cha_access_cil_data_mgmt_java_request_duration_seconds	Average time taken by CIL Data Management service to process a request. The unit of measurement is milliseconds.	Summary	method	Method of CIL operation. Possible values: get, put
			type	Type or Classification of data being handled. Possible values: OfflineFileName, SessionIdTranslation, Events, SessionMetadata
			partition	Customer or region partition based on the context. Possible Values: 1, 2, 3 etc.
cha_access_event_consumption_kafka_requests_total	Number of events received.	Counter	type	Event Name received/sent. Example: CustomerData UpdateEvent.



Table 1 Charging Access Metrics

Metric name	Metric description	Type	Metric Labels	Metric Label Description
cha_access_event_consumption_kafka_requests_errors_total	Number of Product Status Change Events whose processing failed or Number of Product Status Change Events timed out while processing or Number of Product Status Change Acknowledgement Events whose processing failed or Number of Product Status Change Acknowledgement Events timed out while processing or Number of Customer Data Update Events whose processing failed or Number of Customer Data Update Events whose processing failed or Number of Characteristic Value Update Notification Acknowledgement Events whose processing failed or Number of Characteristic Value Update Notification Acknowledgement Events timed out while processing or Number of Contract Status Change Events whose processing failed or Number of Contract Status Change Events timed out while processing.	Counter	code	Error Code



Table 1 Charging Access Metrics

Metric name	Metric description	Type	Metric Labels	Metric Label Description
			type	Event Name received/sent. Example: CustomerData UpdateEvent.
cha_access_event_consumption_kafka_request_duration_seconds	Average time taken to process events. The unit of measurement is milliseconds.	Summary	type	Event Name received/sent. Example: CustomerData UpdateEvent.
cha_access_online_rate_charge_http_requests_total	Number of requests received over the online rate and charge rest external interface.	Counter	method	The HTTP Verb. Possible values: DELETE, GET, PUT, POST
			operation	Possible values: adviceOfCharge, adviceOfEligibleServiceUnits, deduction, reservation
cha_access_online_rate_charge_http_requests_errors_total	Number of failure responses sent for requests over the online rate and charge rest external interface.	Counter	code	HTTP Response Code
			method	The HTTP Verb. Possible values: DELETE, GET, PUT, POST
			operation	Possible values: adviceOfCharge, adviceOfEligibleServiceUnits, deduction, reservation



Table 1 Charging Access Metrics

Metric name	Metric description	Type	Metric Labels	Metric Label Description
cha_access_online_rate_charge_http_request_duration_seconds	Average time taken to process a request received over the online rate and charge rest external interface. The unit of measurement is milliseconds.	Summary	method	The HTTP Verb. Possible values: DELETE, GET, PUT, POST
			operation	Possible values: adviceOfCharge, adviceOfEligibleServiceUnits, deduction, reservation
cha_access_move_contract_http_requests_total	Number of requests received.	Counter	method	The HTTP Verb. Possible values: POST
			operation	Possible values: moveContract, cancelMoveContract
cha_access_move_contract_http_requests_errors_total	Number of requests failed.	Counter	code	HTTP Response Code
			method	The HTTP Verb. Possible values: POST
			operation	Possible values: moveContract, cancelMoveContract
cha_access_move_contract_http_request_duration_seconds	Average time taken to process a request. The unit of measurement is milliseconds.	Summary	method	The HTTP Verb. Possible values: POST
			operation	Possible values: moveContract, cancelMoveContract



Table 1 Charging Access Metrics

Metric name	Metric description	Type	Metric Labels	Metric Label Description
cha_access_transfer_product_data_http_requests_total	Number of TransferProductData requests received.	Counter	method	The HTTP Verb. Possible values: POST
			operation	Possible Values: transferProductData
cha_access_transfer_product_data_http_requests_errors_total	Number of TransferProductData requests failed.	Counter	code	HTTP Error Code
			method	The HTTP Verb. Possible values: POST
			operation	Possible Values: transferProductData
cha_access_transfer_product_data_http_request_duration_seconds	Average time taken to process a request. The unit of measurement is milliseconds.	Summary	method	The HTTP Verb. Possible values: POST
			operation	Possible Values: transferProductData
cha_access_recurrence_http_requests_total	Number of requests received.	Counter	method	The HTTP Verb. Possible values: GET, POST
			resource	Possible Values: contract, executeRecurrenceJob, product, recurrenceProductOfferingPrice, recurrenceNotificationOffsetTrigger
cha_access_recurrence_http_requests_errors_total	Number of requests failed.	Counter	code	HTTP Error Code



Table 1 Charging Access Metrics

Metric name	Metric description	Type	Metric Labels	Metric Label Description
			method	The HTTP Verb. Possible values: GET, POST
			resource	Possible Values: contract, executeRecurr enceJob, product, recurrenceProdu ctOfferingPrice, recurrenceNotific ationOffsetTrigg er
cha_access_recu rrance_http_requ est_duration_sec onds	Average time taken to process a request. The unit of measurement is milliseconds.	Summary	method	The HTTP Verb. Possible values: GET, POST
			resource	Possible Values: contract, executeRecurr enceJob, product, recurrenceProdu ctOfferingPrice, recurrenceNotific ationOffsetTrigg er
cha_access_nchf _charging_http_r equests_total	Number of requests received over the conve rged charging nchf external interface.	Counter	direction	The request received IN to Charging Function (Create, Create-IEC, Create-PEC, Update, Release) or sent OUT from Charging Function (Notify). Possible Values: IN, OUT.
			method	The HTTP Verb. Possible Values: POST.



Table 1 Charging Access Metrics

Metric name	Metric description	Type	Metric Labels	Metric Label Description
			operation	The Service operation that has been performed. Possible Values: Create-IEC, Create-PEC, Create, Update, Release, Notify.
			endpoint	Endpoint of an external server, when available. For sent notifications, it's the host address of the SCP, if used, otherwise the host address of the notification receiver. Default value is: NA.
			retransmitted	Indicates whether the request is retransmitted. Possible values: Yes, No.
cha_access_nchf_charging_http_requests_errors_total	Number of failure responses sent for requests over the converged charging nchf external interface.	Counter	code	The Error Response code to represent the reason of failure. Possible Values: HTTP Response Code (3xx, 4xx, 5xx).



Table 1 Charging Access Metrics

Metric name	Metric description	Type	Metric Labels	Metric Label Description
			delivery_status	Indicates whether client closed the connection or not before CHA Access responds back. Possible Values: Delivered, ConnectionResetByClient.
			direction	The request received IN to Charging Function (Create, Create-IEC, Create-PEC, Update, Release) or sent OUT from Charging Function (Notify). Possible Values: IN, OUT.
			method	The HTTP Verb. Possible Values: POST.
			operation	The Service operation that has been performed. Possible Values: Create-IEC, Create-PEC, Create, Update, Release, Notify.



Table 1 Charging Access Metrics

Metric name	Metric description	Type	Metric Labels	Metric Label Description
			endpoint	Endpoint of an external server, when available. For sent notifications, it's the host address of the SCP, if used, otherwise the host address of the notification receiver. Default value is: NA.
			retransmitted	Indicates whether the request is retransmitted. Possible values: Yes, No.
cha_access_nchf_charging_http_svc_requests_total	Number of service sessions received in request over the converged charging nchf external interface.	Counter	sub_session_id	Represents Rating-Group or Service-Identifier based on the context.
			endpoint	Endpoint of an external server



Table 1 Charging Access Metrics

Metric name	Metric description	Type	Metric Labels	Metric Label Description
cha_access_nchf_charging_http_svc_requests_errors_total	Number of failure responses for service session sent for requests over the converged charging nchf external interface. In addition, in cases where a service response is not applicable—such as during a Release—the response count will remain unchanged and will not be incremented.	Counter	code	The Error Response Code to represent the reason of failure. Possible Values: According to the 3GPP Spec.
			sub_session_id	Represents Rating-Group or Service-Identifier based on the context.
			endpoint	Endpoint of an external server
cha_access_nchf_charging_http_request_duration_seconds	Average time taken to process a request received over the converged charging nchf external interface. The unit of measurement is milliseconds.	Summary	direction	The request received IN to Charging Function (Create, Create-IEC, Create-PEC, Update, Release) or sent OUT from Charging Function (Notify). Possible Values: IN, OUT.
			method	The HTTP Verb. Possible Values: POST.



Table 1 Charging Access Metrics

Metric name	Metric description	Type	Metric Labels	Metric Label Description
			operation	The Service operation that has been performed. Possible Values: Create-IEC, Create-PEC, Create, Update, Release, Notify.
			endpoint	Endpoint of an external server, when available. For sent notifications, it's the host address of the SCP, if used, otherwise the host address of the notification receiver. Default value is: NA.
			retransmitted	Indicates whether the request is retransmitted. Possible values: Yes, No.
cha_access_overload_reporting_grpc_requests_total	Number of overload reporting requests sent to NFReg.	Counter	-	-
cha_access_overload_reporting_grpc_requests_errors_total	Number of overload reporting requests sent to NFReg that resulted in an error.	Counter	code	GRPC Status Response Code



Table 1 Charging Access Metrics

Metric name	Metric description	Type	Metric Labels	Metric Label Description
cha_access_overload_reporting_group_request_duration_seconds	Average response time of an overload reporting request towards NFReg. The unit of measurement is seconds.	Summary	-	-
cha_access_overload_responses_percentage_per_evaluation	Evaluated overload ratio as percentage during an overload evaluation window.	Summary	-	-
cha_access_external_rating_diameter_requests_total	Number of requests received over the External Rating CIPIP external interface.	Counter	requestname	Represents the RequestName that is prescribed in the configured diameter dictionary.
			endpoint	Represents the external rating system realm.
cha_access_external_rating_diameter_requests_errors_total	Number of failure responses sent for requests over the External Rating CIPIP external interface.	Counter	code	Charging Diameter Result Code to represent the reason of failure.
			requestname	Represents the RequestName that is prescribed in the configured diameter dictionary.
			endpoint	Represents the external rating system realm.



Table 1 Charging Access Metrics

Metric name	Metric description	Type	Metric Labels	Metric Label Description
cha_access_external_rating_diameter_svc_requests_total	Number of service session requests received over the External Rating CIPIP external interface.	Counter	sub_session_id	Represents Rating-Group or Service-Identifier based on the context.
			endpoint	Endpoint of an external server
cha_access_external_rating_diameter_svc_requests_errors_total	Number of service session failure responses sent over the External Rating CIPIP external interface.	Counter	code	Charging Diameter Result Code to represent the reason of failure. Example: 5002.
			sub_session_id	Represents Rating-Group or Service-Identifier based on the context.
			endpoint	Endpoint of an external server
cha_access_external_rating_diameter_request_duration_seconds	Average time taken to process a request received over the External Rating CIPIP external interface. The unit of measurement is milliseconds.	Summary	requestname	Represents the RequestName that is prescribed in the configured diameter dictionary.
			endpoint	Represents the external rating system realm.



Table 1 Charging Access Metrics

Metric name	Metric description	Type	Metric Labels	Metric Label Description
cha_access_nchf_policy_http_requests_total	Number of requests received over the spending limit control nchf external interface.	Counter	direction	The request received IN to Charging Function (Subscribe) or sent OUT from Charging Function (Notify). Possible Values: IN, OUT.
			method	The HTTP Verb. Possible Values: POST, DELETE.
			operation	The Service operation that has been performed. Example Values: Subscribe, Notify.
			endpoint	Endpoint of an external server, when available. For sent notifications, it's the host address of the SCP, if used, otherwise the host address of the notification receiver. Default value is: NA.
			retransmitted	Indicates whether the request is retransmitted. Possible values: Yes, No.



Table 1 Charging Access Metrics

Metric name	Metric description	Type	Metric Labels	Metric Label Description
cha_access_nchf_policy_http_requests_errors_total	Number of failure responses sent for requests over the spending limit control nchf external interface.	Counter	code	The Error Response code to represent the reason of failure. Possible Values: HTTP Response Code (3xx, 4xx, 5xx).
			delivery_status	Indicates whether client closed the connection or not before CHA Access responds back. Possible Values: Delivered, ConnectionResetByClient.
			direction	The request received IN to Charging Function (Subscribe) or sent OUT from Charging Function (Notify). Possible Values: IN, OUT.
			method	The HTTP Verb. Possible Values: POST, DELETE.
			operation	The Service operation that has been performed. Example Values: Subscribe, Notify.



Table 1 Charging Access Metrics

Metric name	Metric description	Type	Metric Labels	Metric Label Description
			endpoint	Endpoint of an external server, when available. For sent notifications, it's the host address of the SCP, if used, otherwise the host address of the notification receiver. Default value is: NA.
			retransmitted	Indicates whether the request is retransmitted. Possible values: Yes, No.
cha_access_nchf_policy_http_request_duration_seconds	Average time taken to process a request received over the spending limit control nchf external interface. The unit of measurement is milliseconds.	Summary	direction	The request received IN to Charging Function (Subscribe) or sent OUT from Charging Function (Notify). Possible Values: IN, OUT.
			method	The HTTP Verb. Possible Values: POST, DELETE.
			operation	The Service operation that has been performed. Example Values: Subscribe, Notify.



Table 1 Charging Access Metrics

Metric name	Metric description	Type	Metric Labels	Metric Label Description
			endpoint	Endpoint of an external server, when available. For sent notifications, it's the host address of the SCP, if used, otherwise the host address of the notification receiver. Default value is: NA.
			retransmitted	Indicates whether the request is retransmitted. Possible values: Yes, No.
cha_access_external_policy_diameter_requests_total	Number of requests received over the External Policy Control Sy external interface.	Counter	requestname	Represents the RequestName that is prescribed in the configured diameter dictionary.
			endpoint	Endpoint of an external server
cha_access_external_policy_diameter_requests_errors_total	Number of failure responses sent for requests over the External Policy Control Sy external interface.	Counter	code	Charging Diameter Result Code to represent the reason of failure. Example: 5002.
			requestname	Represents the RequestName that is prescribed in the configured diameter dictionary.
			endpoint	Endpoint of an external server



Table 1 Charging Access Metrics

Metric name	Metric description	Type	Metric Labels	Metric Label Description
cha_access_external_policy_diameter_request_duration_seconds	Average time taken to process a request received over the External Policy Control Sy interface. The unit of measurement is milliseconds.	Summary	requestname	Represents the RequestName that is prescribed in the configured diameter dictionary.
			endpoint	Endpoint of an external server
cha_access_balance_management_http_requests_total	Number of requests received over the balance management external interface.	Counter	method	The HTTP Verb. Possible values: PATCH, POST
			operation	Possible values: balanceExpiry OffsetTrigger, moveCustomer
			resource	Possible values: BA, PB, NA
cha_access_balance_management_http_requests_errors_total	Number of failure responses sent for requests over the balance management external interface.	Counter	code	HTTP Response Code
			method	The HTTP Verb. Possible values: PATCH, POST
			operation	Possible values: balanceExpiry OffsetTrigger, moveCustomer
			resource	Possible values: BA, PB, NA



Table 1 Charging Access Metrics

Metric name	Metric description	Type	Metric Labels	Metric Label Description
cha_access_balance_management_http_request_duration_seconds	Average time taken to process a request received over the balance management external interface. The unit of measurement is milliseconds.	Summary	method	The HTTP Verb. Possible values: PATCH, POST
			operation	Possible values: balanceExpiry OffsetTrigger, moveCustomer
			resource	Possible values: BA, PB, NA
cha_access_test_management_http_requests_total	Number of requests received over the test management external interface.	Counter	method	The HTTP Verb. Possible values: POST
			operation	Possible Values: entityAdjustment
			resource	Possible Values: contract, customer
cha_access_test_management_http_requests_errors_total	Number of failure responses sent for requests over the test management external interface.	Counter	code	HTTP Response Code
			method	The HTTP Verb. Possible values: POST
			operation	Possible Values: entityAdjustment
			resource	Possible Values: contract, customer



Table 1 Charging Access Metrics

Metric name	Metric description	Type	Metric Labels	Metric Label Description
cha_access_test_management_http_request_duration_seconds	Average time taken to process a request received over the test management external interface. The unit of measurement is milliseconds.	Summary	method	The HTTP Verb. Possible values: POST
			operation	Possible Values: entityAdjustment
			resource	Possible Values: contract, customer
cha_access_internal_resource_statistics	Counter for Charging Internal Statistics.	Gauge	type	Possible Value: Latency, OverloadCounter, QueueSize
			entity	Possible Values: which entity, e.g. Admin, InternalInterface, Offline, Online, etc.
cha_access_event_creation_java_total	Number of Event Records put in queue.	Counter	type	Represents the event record type that is being created. Example: ChargingNetworkFunctionEvent.
cha_access_event_creation_java_errors_total	Number of Event Records failed to put in queue.	Counter	code	Charging Event Result Code to represent the reason of failure. Example: 3002.
			type	Represents the event record type that is being created. Example: ChargingNetworkFunctionEvent.



Table 1 Charging Access Metrics

Metric name	Metric description	Type	Metric Labels	Metric Label Description
cha_access_event_posting_kafka_total	Number of Event Records sent in the kafka interface.	Counter	customer_partition	Represents the Partition ID where the customer belongs.
			topic	The kafka topic the event was sent to.
			type	Represents the event record type that is being created. Example: ChargingNetworkFunctionEvent.
			transport_layer	Messaging mode. Possible values: CIL, MSG
cha_access_event_posting_kafka_errors_total	Number of Event Records failed to send in the kafka interface.	Counter	code	Charging Event Result Code to represent the reason of failure. Example: 3002.
			customer_partition	Represents the Partition ID where the customer belongs.
			topic	The kafka topic the event was sent to.
			type	Represents the event record type that is being created. Example: ChargingNetworkFunctionEvent.
			transport_layer	Messaging mode. Possible values: CIL, MSG



Table 1 Charging Access Metrics

Metric name	Metric description	Type	Metric Labels	Metric Label Description
cha_access_customer_information_update_http_requests_total	Number of requests received over the customer information update external interface.	Counter	method	The HTTP Verb. Possible values: PUT
			resource	Resource on which the operation is performed. Possible values: customer
cha_access_customer_information_update_http_requests_errors_total	Number of failure responses sent for requests over the customer information update external interface.	Counter	code	Charging Event Result Code to represent the reason of failure. Example: 3002.
			method	The HTTP Verb. Possible values: PUT
			resource	Resource on which the operation is performed. Possible values: customer
cha_access_customer_information_update_http_request_duration_seconds	Number of requests received over the customer information update external interface.	Summary	method	The HTTP Verb. Possible values: PUT
			resource	Resource on which the operation is performed. Possible values: customer



Table 1 Charging Access Metrics

Metric name	Metric description	Type	Metric Labels	Metric Label Description
cha_access_logstreaming_tcp_requests_errors_total	Number of requests that resulted in error when streaming the log events towards the log transformer.	Counter	appender_name	The name of the appender which is used for streaming the log events
cha_access_logstreaming_tcp_queue_events_count	Number of log events present in the streaming appender's queue which are yet to be sent to the log transformer.	Gauge	appender_name	The name of the appender which is used for streaming the log events
cha_access_session_management_http_requests_total	Number of requests received over the session management external interface.	Counter	method	The HTTP Verb. Possible values: POST, PUT, DELETE
			operation	Resource on which the operation is performed. Possible values: createPolicySession, moveChargingSessionToInternal, deleteSession
cha_access_session_management_http_requests_errors_total	Number of failure responses sent for requests over the session management external interface.	Counter	code	HTTP Response Code
			method	The HTTP Verb. Possible values: POST, PUT, DELETE



Table 1 Charging Access Metrics

Metric name	Metric description	Type	Metric Labels	Metric Label Description
			operation	Resource on which the operation is performed. Possible values: createPolicySession, moveChargingSessionToInternal, deleteSession
			sub_status	Possible values: sbiInternalCreate, sbiExternalDelete, dccaInternalCreate, dccaExternalDelete, N/A
cha_access_session_management_http_request_duration_seconds	Average time taken to process a request received over the session management external interface. The unit of measurement is seconds.	Summary	method	The HTTP Verb. Possible values: POST, PUT, DELETE
			operation	Resource on which the operation is performed. Possible values: createPolicySession, moveChargingSessionToInternal, deleteSession