Oracle® Communications Convergent Charging Controller
Release Notes

Release 15.0.0

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Contents

About the Release Notes

This document provides the release notes for the new and enhanced features introduced between Oracle Communications Convergent Charging Controller (CCC) release 12.0.6 and Oracle Communications Convergent Charging Controller (CCC) release 15.0.0.

New Features

Convergent Charging Controller 15.0.0 includes the following enhancements:

- Enhanced Voucher Operations through SOAP API
- Support for PUT Operation and Enhanced Array Format
- Support for 64-bit Values
- Support for Non-Cash Balance Type in CCDB Feature Node
- Enhanced SMS Audit Format
- Enhanced Balance SubType AVP Handling
- Support for Overriding Service Key/Capability Type for VPN
- Support for Provisioning Multiple Hunting Numbers to a VPN Station Hunting List
- Support for Low Balance and Pre-call Announcements
- Support for Updated Database and Operating System Version

Enhanced Voucher Operations through SOAP API

Earlier, Convergent Charging Controller only supported querying status for a specific voucher through PI Interface, SOAP API, or directly in the SMS UI. Convergent Charging Controller also provided an option to change the status for range of vouchers by providing the serial numbers in SMS UI. Also, change of expiry of only one serial number at a time was supported.

Convergent Charging Controller is now enhanced to support the following through SOAP API interface:

- Query the status of range of vouchers. Range of serial numbers are given as input and output contains the status corresponding to individual vouchers.
- Change the status of range of vouchers.
- Change the expiry date of range of vouchers.

Two new parameters **SERIAL_START** and **SERIAL_END** are added for the PI command CCSVR1. These two parameters are supported only for the command options QRY and CHG.

For more information, see *CCS Provisioning Interface Commands* guide.

Support for PUT Operation and Enhanced Array Format

Earlier, RESTClient only supported GET and POST operations. Now, PUT operation is also supported.

Earlier, XML tags with only one xml array element was converted to JSON object instead of JSON array type. A new xml tag arrayXmlTags is added to support the list of tags to be converted to JSON array.

For more information, see *REST Technical Guide*.

Support for 64-bit Values

Voucher and Promotion Manager Interfaces are enhanced to support 64 bit values. 64 bit voucher recharge values are now supported in the following interfaces:

- Voucher recharge using control plan

- Voucher recharge using SOAPUI/OSD

Other interface enhanced to support 64 bit values:

- Number of events field in NEVT feature node

Support for Non-Cash Balance Type in CCDB Feature Node

Earlier, CCDB feature node provided support only for chargeable cash balance types.

Now, Convergent Charging Controller also supports chargeable time and data balance in the CCDB node. A new field Balance Category is added, and the existing field Balance Type is enhanced in the Configure Cost Call Duration Branching interface to support this feature.

For more information, see the following documents:

- *Feature Nodes Reference Guide*

- *Charging Control Services Help*

Enhanced SMS Audit Format

Earlier, for SMS Auditing functionality, audit file had multiple audit lines/CDR for single message in the following format:

timestamp < origination number >,< destination number >, message text

One audit line was written once MMX receives the message and one audit line for each path on which MMX tries to process/deliver the message.

Now, instead of writing multiple SMS audit line for single message, Convergent Charging Controller writes only one audit line for one message at the end of the call irrespective of number of paths configured in the routing rule. The audit line also includes status and retry count information.

Status indicates the message delivery status. If SMS is successfully delivered to SMSC/ASP, then it shows the status as "Succeeded" else it is written as "Failed".

Retry count indicates the total number of retry attempted across the paths to process/deliver the message to SMSC/ASP.

The new format is as follows:

timestamp < origination number >,< destination number >, message text, status, retry count

A new configuration **logFinalAuditLine is added to enable this feature.**

For more information, see *Messaging Manager Technical Guide*.

Enhanced Balance SubType AVP Handling

By default, when subscriber having both main currency and loan balance makes a voice call, the remaining currency balance was shown as sum of loan and main balance in the post call notification.

BRM maintains both loan balance and main currency balance in the same balance type. With AVP changes, post call notification can show only the main balance without including the loan balance.

Support for Overriding Service Key/Capability Type for VPN

VPN performs different functions for different VPN services. A service key is used to determine the service to be invoked.

Convergent Charging Controller now provides an option to dynamically override the type of VPN service invoked. For service differentiation of VPN calls, Convergent Charging Controller use eventTypeBCSM value provided in the IDP.

If the value provided in eventTypeBCSM is:

- IDP.eventTypeBCSM == collectedInfo - VPN Originating service is invoked

- IDP.eventTypeBCSM == termAttemptAuthorized - VPN Terminating service is invoked

A new configuration parameter overrideVPNCapabilityWithEventTypeBCSM is added to enable this feature.

If this parameter is set to true, and eventTypeBCSM is present in IDP, then the capability for VPN call is determined by the value of eventTypeBCSM. Else, VPN will use the service key to determine the service to be invoked.

For more information, see *Virtual Private Network Technical Guide*.

Support for Provisioning Multiple Hunting Numbers to a VPN Station Hunting List

Earlier, Convergent Charging Controller only supported addition of one hunting number at a time to a hunting list associated with a VPN station. Each VPN station supports a maximum of 10 hunting numbers. So to provision one hunting list, 10 different requests were required.

Convergent Charging Controller is now enhanced to support one single command to provision multiple hunting number into a VPN station hunting list. It also supports deletion of multiple hunting numbers, and hunting list completely as well in one single request. This is provisioned using PI command through PI Tester screen, PIbatch command, and SOAP API.

To enable this, two new optional arguments (ADDENTRIES and DELENTRIES) are added to VPNST5 command.

For more information, see *VPN Provisioning Interface Commands*.

Support for Low Balance and Pre-Call Announcements

Low Balance Announcements

Earlier, when a subscriber made a call and if the balance was insufficient, call was disconnected.

Convergent Charging Controller now supports playing announcement during low balance and initiate a loan to continue the call. A new configuration resetUATBOnINSF is added to support this feature.

Pre-Call Announcements

During the first call for a subscriber, Convergent Charging Controller now supports setting the language preference through IVR. Two new parameters CCACustomAvpProfileTag and AVPProfileTagData are added in eserv.config to support this feature.

For more information, see *Charging Control Services Technical Guide*.

Support for Updated Database and Operating System Version

Convergent Charging Controller now supports Oracle Database Server 19.20 and Oracle Linux 8.7 version.

Known Problems

List of Known Problems

- Convergent Charging Controller 15.0.0 upgrade is supported only on Solaris 11.4 version. If you are on a lower version, upgrade the OS to Solaris 11.4. GCC version 12.2 is required for Solaris 11.4 version.

- If there are no OpenSSL 1.1 softlinks in Solaris 11.4 in the lib directory of 64 path, then create the following softlinks using SSL 1.1 file's in all the 3 nodes (SMS, SLC, and VWS):
  cd to LIB 64 path (ex:/lib/64)

  ln -s <Absolute path of SSL 1.1 folder, having libssl.so.1.1 file> libssl.so.1.1

  ln -s <Absolute path of SSL 1.1 folder, having libcrypto.so.1.1 file> libcrypto.so.1.1

  Example:

  ln -s /usr/openssl/1.1/lib/64/libssl.so.1.1 libssl.so.1.1

  ln -s /usr/openssl/1.1/lib/64/libcrypto.so.1.1 libcrypto.so.1.1

- Whenever upgrading database from older versions (18*c* or earlier) to Oracle database 19*c*, the "system" user password needs to be set same as in the earlier database.

- Before upgrading the SMS node from 12.0.6 to 15.0.0 version, follow the below steps:

  1. Run the following SQL query to check if the pi_params table in SMF database contains the "CCSVR1=COV" command:

     ```
     select * from pi_params where COMMAND="CCSVR1=COV"
     ```

  2. If no record is found, log in as smf_oper (application user) in the SMS node and run the following:

     ```
     export LOGFILE=<file name>
     export SMFPASSWORD=<Database password for smf user>
     ```

  3. Run the script from **/IN/service_packages/PI/db/install/create/SMF/scripts** path.

     ```
     ./install_PIcCommands_OC3C.sh
     ```

  4. Verify if the command COMMAND="CCSVR1=COV" is available. If available, continue to upgrade the SMS node.

Fixes in This Release

List of Fixes

The following table lists service request issues reported by external sources that have been fixed in this release. The issues are listed component-wise.

Bug DB Number	Service Request (SR) Number	Issue Description	Solution Implementation
35753126		slee_acs is crashing when sending SMS notifications.	Exception occurred because of the buffer size mismatch. This issue is fixed.
35722719	3-33996799711	smsCompareResyncClient crashes with following error during replication/resync: Error: Double free detected	Code is modified to avoid duplicate deletion of temporary variable.

Bug DB Number	Service Request (SR) Number	Issue Description	Solution Implementation
35689795	3-33905951651	VWS sync was not working after restart.	Removed the code which was added to print the debugs for each of the wallet ids being processed by ccsBeResync.
35652488	3-33766145421	slee_acs is writing to log parsed profile block, even if debug is disabled.	Conditional check was missing in few places for printing the profile details. Added conditional check to control logging debugs.
35615772	3-33700651911 3-33138635361	beGrovellor was constantly throwing error about missing child process.	As part of the fix, the handler for signal SIGCHLD is set to SIG_DFL so that it does not exit immediately on any of the platforms.
35610152		Nature of Address Indicator was not copied in call context Profile Tag. Customer wants to copy the B-Party Nature of address indicator field from SS7 message into call context Profile tag.	Added new profile tag PT_CC_NOA_BCD_CALLED_PARTY and added code to store value from called party BCD number.
35564331		VPN service cannot be triggered when both VPN MO and VPN MT have same service key.	Added a new configuration parameter "overrideVPNCapabilityWithEventTypeBCSM" which works same as "overrideCapabilityWithEventTypeBCSM" of voice call. This configuration parameter (overrideVPNCapabilityWithEventTypeBCSM) needs to be set in VPN section of eserv.config file (of SLC). Once this configuration parameter is set to true, then the eventTypeBCSM will override the service key sent during the call. In case eventTypeBCSM is not present in IDP, then the service key value will be used to determine the type of VPN call.
35550491	3-33468772921	Frequent xmsTrigger core dump on SLC.	This issue was because of missing null check for termcc and origcc before deliveryFailure() function is getting called. Code is modified to add the null check.
35545475	3-33731358301	BUCKET_LEVEL_COSTS in the final summary CDR only gives the cost details of last commit and not the total cumulative one.	In mid-session CDR enabled scenarios, for every mid-session commit we have the mid-session EDRs. Those EDRs have the BUCKET_LEVEL_COSTS for the particular commit.

Bug DB Number	Service Request (SR) Number	Issue Description	Solution Implementation
			So BUCKET_LEVEL_COSTS are not needed again in the final CDR. Hence BUCKET_LEVEL_COSTS is removed from the final CDR. With this, we have another problem for short calls, where there is no mid-session commits. In this case, there are no mid-session EDRs. So BUCKET_LEVEL_COSTS would be missing as it is being removed from final CDR. Now, mid-session EDRs are enabled for short calls as well.
35543698		DAP Response parsing is failing intermittently.	Issue was because of missing ">" in SOAP message. In failure scenario, only part of/partial soap message was read at once from Secure Sockets Layer (SSL) session and updated in buffer. Since issue was because of extra white spaces at the end of the message which leads to invalid calculation, code is updated to trim the SOAP message before processing the message.
35534489		NGW picks already processed Kafka payload again after restart. Currently the default auto-commit time is 5 seconds. Customer wanted to change the timer to 2 seconds.	To support future kafka-client properties, PROPERTIES tag is added inside KAFKA. These are case sensitive tag. Example: <ECE> <KAFKA> <TOPIC>ECENotifications</TOPIC> <PROPERTIES> <auto.commit.interval.ms>2000</auto.commit.interval.ms> //auto-commit time <client.id>TEST1</client.id> //kafka-client id </PROPERTIES> </KAFKA>

Bug DB Number	Service Request (SR) Number	Issue Description	Solution Implementation
35506646	3-33362374731	ccsMFileDump fails to dump tax information.	The issue was found in the code where the address of the next element in the taxPlan was being calculated using pointer arithmetic. The size of the taxPlan was mistakenly added to the start address of the taxPlan, causing the address to move by the size of taxPlan, which exceeds the taxPlansEnd. This results in the error. To solve this, before performing the addition, the taxPlan is reinterpreted as a character type. By doing so, the address calculation of the next element of the taxPlan is corrected.
35503832	3-33305015311	Not able to compile master plan checks or subsequent plan checks.	Logic for offset is missing while copying compiler errors which causes copy of same set of errors from the beginning. Change has been implemented to fix this logic.
35502699		DCDBeclient crash while updating the smsStats.	Code is modified to optimize index_create() and print_extra_avps API.
35502668		slee_acs crash frequently on ERBC branching node.	Code is modified to change the signature of tokenise() - now passing delimiter as 'char'. Converted C-based tokenisation to C++ style.
35493115		Voucher Query API is not returning ERROR when using HRN in VOUCHER field.	Code is modified to use the 's' field of the authentication rule to create the voucher batch range. Earlier it was based on the configuration. Now, customer can use the same authentication rule to create the vouchers from UI, and for On-Demand vouchers.
35487626	3-33340788401	RAR requests are sent with unknown value in AVP Re-Auth-Request-Type(285)	Code is modified to set the Re-Auth-Request-Type to 0. Now, xmlSleeDCAInterface will set the value to 0 before sending it to DCA even if the value coming from DAP event is different.
35480473	3-33323805851	ps_list.sh needs dynamic username length handling.	Fixed the issue by replacing the hard coded value 16 in the command (ps -e –o "user:16,pid,ppid,c,stime,tty,time,cmd") with the length of the NCC/3C user.

Bug DB Number	Service Request (SR) Number	Issue Description	Solution Implementation
35474394	3-33319851141	When there are more than one LLIM node in the control plan, slee_acs was crashing when it start processing second LLIM FN.	Issue was in retrieve_context_instance_offset function. Issue was because of invalid address of NodeContext index value. Updated the logic based on MAX_NUMBER_LLIM_INSTANCES to get the valid NodeContext index value in retrieve_context_instance_offset function.
35409542	3-33104963681	DCA to allow termination request of failed session.	Added "gracefulTerminationFlag". Based on this flag and "returnServiceResultCodeInRoot", added the logic to control the result code in CCA of terminate request of failed session.
35401476	3-32874729791	After SLC restart, "ERROR: Statistic was not found" alarm is getting generated every minute until new statistic is created.	Alarm "Statistic was not found" is generated when we try to fetch statistic details from the shared memory created by smsStatsDaemon and ends up with entry not found. This alarm is expected and it reports correct information. As this alarm should not be considered as an error, modified severity to Warning for this alarm.
35395809	3-33068570991	When refunding money into General Cash, it is always treated as prepaid.	Modified the code to give an option to set the limit type for post-paid or prepaid.
35392930	3-32827096501 3-32650448731	1. In Mid-Session EDR, the Duration Field has to be populated with only the duration of that particular session. Currently, each midsession EDR is written with DURATION field as cumulative value which contains previous midsession duration also. 2. Need to add a new field to identify the start time and end time of a midsession EDR.	1. A new EDR field is added (DURATION_DELTA) which will record the midsession duration of the call (delta duration between previous EDR and current EDR). Existing DURATION field will be still there and will populate the cumulative value. 2. A new EDR field is added (LAST_RECORD_DATE) which records the last EDR writing time which will be the start time of current EDR, the End time of EDR will be RECORD_DATE which is already existing.

Bug DB Number	Service Request (SR) Number	Issue Description	Solution Implementation
35370226	3-32722507741 3-32827096501 3-32650448731	1. In Mid-Session EDR, the Duration Field has to be populated with only the Duration of that particular session. Currently each midsession EDR is written with DURATION field as Cumulative value which contains previous midsession duration also. 2. Need to add a new field to identify the start time and end time of a midsession EDR	1. A new EDR field is added (DURATION_DELTA) which will record the midsession duration of the call (delta duration between previous EDR and current EDR). Existing DURATION field will be still there and will populate the cumulative value. 2. A new EDR field is added (LAST_RECORD_DATE) which records the last EDR writing time which will be the start time current EDR, the End time of EDR will be RECORD_DATE which is already existing.
35364879	3-32975028791	WRI fails to find reservations with CMIDs that exceed signed 32-bit limits.	Querying subscriber fails while passing 64-bit integer value to clientMsgId (which is of 32-bit integer variable) in the vector of WalletReservationList. To fix this, we updated the code to make clientMsgId as 64-bit integer variable.
35357874		1) With every successful query of voucher from GUI, ccsBeOrb.log is reporting an error. It should be info and not error. 2) smsNamingServer is disconnecting from DB sometime after start.	1) Changed the log level from ERROR to NOTICE. 2) Suggested to configure SQLNET.EXPIRE_TIME to 10 in SQLNET.ORA file.
35346817	3-32684261611	Expiring buckets causing reservations to be silently deleted.	Updated the data type in getter and setter for getting clientMsgId and function pointer to int64.
35318008	3-32722507741 3-32827324571	1. In Mid-Session EDR the Duration Field has to be populated with only the Duration of that particular session. Currently each midsession EDR is written with DURATION field as Cumulative value which contains previous midsession duration also. 2. Need to add a new field to identify the start time and end time of a midsession EDR	1. A new EDR field is added (DURATION_DELTA) which will record the midsession duration of the call (delta duration between previous EDR and current EDR). Existing DURATION field will be still there and will populate the cumulative value. 2. A new EDR field is added (LAST_RECORD_DATE) which records the last EDR writing time which will be the start time current EDR, the End time of EDR will be RECORD_DATE which is already existing.

Bug DB Number	Service Request (SR) Number	Issue Description	Solution Implementation
35310363	3-32807216144	CTR doesn't limit reservations based on Bucket Expiry. In Balance Bucket Expiry case, since there is no rate change, this scenario is not applicable for detecting TTC boundaries.	Changes made to keep the same behaviour of Bucket Expiry as 6.0.1. Will get the balances which will not include a bucket going to be active in future. Removed filtering condition for future start date of bucket from filterNonActiveBuckets() API.
35307477		addUbeDomainReplication.sh is failing with Error ORA-00001: unique constraint (SMF.RC_TARG_PK) violated.	We need to use the 'distinct' keyword in the inner query to avoid the duplicate records. We have to also exclude the 'SMF_STDEF_E2BE' groups from the inner select query as it is being added later in the script.
35300337	3-32754715181	xmsAgent reported no more dialog errors, even when SLEE dialogs were available.	Code is modified to display proper error message based on error number set.
35300172	3-32754715181	The MM SMPP Connections screen do not validate the Local listen and Local source drop-down options where an Interface should be selected. The Save button is not greyed out and if this configuration is saved, 'xmsTrigger' will fail to start the next time the SLEE is restarted (NOT when the config dynamically reloads).	We have added restriction on the SMPP connection configuration so that it does not allow to save it when 'enabled' is selected and interfaces are not selected from the drop-downs. We have implemented the following scenarios: 1). When "Enabled" is unchecked, Local listen/Local source are not validated and Save button is enabled. 2). When "Enabled" is checked, RX is checked, TX is not checked. Save button should be enabled if Local Source is not blank. 3). When "Enabled" is checked, RX is not checked, TX is checked. Save button should be enabled if Local Listen is not blank. 4). When "Enabled" is checked, RX is not checked, TX is not checked. Save button should be enabled regardless (same behaviour as if the connection is not enabled).
35285862	3-32740526121	We first set Digits (whole part) to be 9 and Digits (fractional part) to be 2 and we got ' 9.00GB' in the SMS (spaces.log).	Before the variable is replaced, leading space are truncated.

Bug DB Number	Service Request (SR) Number	Issue Description	Solution Implementation
		We then set Digits (whole part) to be 3 and Digits (fractional part) to be 2 and we got ' 9.00GB' in the SMS (spaces2.log). We tried to set Digits (whole part) to be 0 and Digits (fractional part) to be 2 and we got '.00GB' in the SMS (spaces3.log). We wanted to try it by leaving empty the Digits (whole part) field, but it is not permitted. There are undesired spaces in the SMS.	
35274056	3-32827096501 3-32650448731	For the time based EDRs, NCC considers below logic: (timeSinceLastCommit > CommitTimeThreshold) for writing ERDs. And this logic is aligned with NCC docs: Duration of time since the last commit should be greater than "Commit Time Threshold". Customer use case is, SR Req comes in at Commit Time Threshold. Since the Duration of time since the last commit is equal to but NOT greater than "Commit Time Threshold", every other mid-session EDR never gets written.	To achieve the required scenario, logic is changed to ">=". (i.e.(timeSinceLastCommit >= CommitTimeThreshold))
35268501		VPN Subscriber lookup node is fetching the 'VPN Network ID' instead of 'VPN Network Name'. In order to support this requirement, we need to: • Add profile tag to hold network name which requires schema changes. • Add the structure member to acs context structure. • Add the functions to set and get the value of network name. • Update all dependent functions and class and structures.	Added new profile tag "CC Private Network Name" (tag code is 327717) which is used to store the VPN network name. Updated the relevant functions to read the VPN network name from VPN network table and populate in newly added reserved profile tag "CC Private Network Name" (tag code is 327717).

Bug DB Number	Service Request (SR) Number	Issue Description	Solution Implementation
35261524	3-32590606741	1) The issue was when m3ua_if was running with retssn -1. In this case, once initialDp is received in m3ua via TR-BEGIN, it contains one incoming cdPA SSN and same CdPA SSN is copied to outgoing CgpA SSN. All responses going out will have that. 2) But, ATI request going out was also having the same copied CgPA SSN. ATI request is a new request going out in TR-BEING. This should not have the copied CgpA SSN (copied from CdPA SSN of initialDP) as it is a new request going out and it is not a part of initialDP flow.	Before updating CgPA SSN, it is verified that the outgoing message is not TR-BEGIN.
35252057	3-32618733911	During IVR interactions, when an ARI is received with a correlationID that contains the SRF address, it assumes it is just the correlationID and treats it as such thus failing to map it to an existing call ID. As per the specification, The value of the "correlationID" may be extracted from the digits received from the initiating SSF or be all of the digits. In general when OC3C receives the correlationID which was merged with initiating SSF, then CorrID was not extracted from SRF address.	We implemented the solution in such a way that during m3ua and sua start-up, it reads the SRF address configured in acs.conf and we store it in sleeTcapIf class. Later, when m3ua receives the correlation id, if it is just a correlation id without SRF address, then we are not making any changes to that correlation id. If the received correlation id is the combination of "SRF Address+ correlation id", then we are extracting the correlation id from this combined correlation id by separating the SRF address. In order to separate the SRF address, we use the SRF address configured in acs.conf.
35245826		VPN call always fail in first attempt.	1) SQL query fails with ORA-01036 at run time where two queries are added in same anonymous block for running. 2) As part of fix, we split the query so that if first query fails to find data from the table (no rows found), then it should go for second query. This behaviour is similar to previously implemented query. The only change is that the query is now in two different blocks.

Bug DB Number	Service Request (SR) Number	Issue Description	Solution Implementation
35244757	3-32617784991	For the RAR (Re-Auth-Request) initiated by DCA, AVP ApplicationId value is set to "0" i.e., Diameter Common Messages.	Changed the code and setting the Application ID value as 4 for Diameter Credit Control Application. After setting value as 4, the RAR will not get rejected as an invalid packet.
35244080	3-32604139311	Capgw is sending wrong number when number in InitialDPSMS contains 'E' letter. 'E' is being normalization to C.	Updated the normalization of BCD digit E.
35243810		1) Slee processes crashed due to slee event corruption which finally lead watchdog to restart all of the slee processes on SLC. 2) 'locApp' process crashed with segmentation fault.	1) We have used the macro which takes size as well as argument to avoid keeping the DAP event size of 1024. 2) We have used 'strlen' to calculate the length of the string and then using it in 'strncpy' function to copy the required length.
35241642	3-32530684721	When an OCS returns an FUI in a CCA to DCD, the rIDE flag does not get set in the aCH back to DCA. As a result, the FUI never gets set/sent by DCA.	Set the status as finalUnitIndicatorPresent based on the response received. If the status is finalUnitIndicatorPresent, then set nodecontext->endOfCall as true, based upon which DCA sets final unit indicator.
35241611	3-32530684721	The BOP FN doesn't support Internal switches such as diameterControlAgent.	The BOP node is designed to determine the internal switches for only CAP and SS7 network protocols. It is not designed to use with Diameter Agent protocols. Since it is an internal switch within our node, and the condition is handled within our code as an exception, we can convert the error message to a warning to avoid interpreting this as an error alarm.
35209317	3-32524703121	The shipped DCD example eserv.configs don't mention the supported Wallet recharge actions, specifically WalletRechargeRequest/WalletRechargeResponse.	Appended WalletRechargeRequest/WalletRechargeResponse to eserv.config.dcd.ece.example and eserv.config.dcd.example files. Note: eserv.config.default will not be updated as it is used to define simple example of configurable AVP part of the message.

Bug DB Number	Service Request (SR) Number	Issue Description	Solution Implementation
35206632	3-32422732541	When performing a Voucher Reserve, Voucher Reservation Revoke, then a Voucher Redemption, it fails and causes a Fatal Engine Error. The voucher also gets into a weird state on the VWS.	In voucher revoke flow, setting the voucher context flag '_direct' back to false again after the result of revoke operation is received from VWS.
35190411		Existing code supports only RSA and DSA type of public keys when the gpg version is "gpg (GnuPG) 2.2.20".	Made code changes to support different types of public keys (Pubkey: RSA, ELG, DSA, ECDH, ECDSA, and EDDSA).
35182408		CCS_ROAM Capability is getting prefixed with random characters	Initialized the object to fix the issue.
35179447		SLEE memory corruption error while processing Thai SMS message via NOTF node	Now calculation of SLEE event size will happen as follows: Size of SLEE event = data size + estimated overhead of 192 bytes
35170651	3-32161641131	When tried to use same password that was previously used while updating it, smsTaskAgent throws wrong error. "Password Change Error" pop-up on SMS UI stating as below: "You have entered the old password incorrectly. Please try again"	When reusing an old password and when it is not compliant with the password policy as configured in PROFILE, the same should be displayed as "Password Policy Error" popup on the SMS GUI, stating as below: "The new password is not compliant with the password policy."
35151283		Customer trying to establish connection with Kafka over TSL, but were not able to connect.	In Kafka config: 1. Added sslEndpointIdentificationAlgorithm parameter. 2. Added corresponding getter and setters. In Java config: 1. Added code to call corresponding setting based on the config.xml parameters. In KafkaTopicReader: If securityProtocol is set to "SSL", sslEndpointIdentificationAlgorithm will be used.

Bug DB Number	Service Request (SR) Number	Issue Description	Solution Implementation
35131567		From CAPv3 IDP (initialDPSMS); oc3c is not extracting the location information however it is present in IDP as 'e-utranCellGlobalIdentity'.	We need to add the fields of type MapEUTRANCellGlobalIdentifier for 'e-utranCellGlobalIdentity and MapLocationAreaIdentity for TAID fields received in 'locationInformationMSC' of the incoming IDP. We have out of the box profiles tags available to store MCC, MNC and CellId of 'e-utranCellGlobalIdentity' and IDP processing at slee_acs takes care of storing the values in these profile tags.
35126658		DAP while sending https request (XML) to external system (DAG), it receives a response with Error code 403/500. It was observed that two mandatory parameters X-Request-Id and X-Source-System-Id are missing from the Header of the request.	Code is modified to add 2 parameters in header based on the below config parameters. flag name: sendXRequestID Type : bool (true/false) Description: This parameter decide whether to send X-Request-Id in header. If set as false, feature is disabled. Default: false flag name: sendXSrcSysID Type : string Description: This parameter holds the string value need to be send in tag X-Source-System-Id. If value is not configured, X-Source-System-Id will not be sent. The X-Request-Id is a unique string which will be send in the Header file. System will generate the unique string if sendXRequestID is true.
35094653	3-32185565731	slee_acs crashed during an attempt to copy a DATE profile tag to a TIME profile tag.	Updated the byte order to correctly copy the value.
35087160	3-32170419141	Customer has observed below exception in their set up: Exception: VWARS: be VWARS RuntimeError: Error running plug-in 'ccsPMXPlugin.so:activeBalanceValueChangedEvent': be VWARS RuntimeError: Plug-in error: ccsPMXPlugin.cc:764 Caught error: be VWARS RuntimeError:	Updated the byte order to correctly copy the value.

Bug DB Number	Service Request (SR) Number	Issue Description	Solution Implementation
		Plug-in error: EquationTree.cc:620 Error evaluating segment (Invalid profile entry, size 8 (require 4)	
35084079	3-32109980901	When attempting to start the SLEE with slee-ctrl, the following error occurs: ERROR: Info: slee_ctrl_record_history: All SLEE processes must have stopped before the SLEE will be started.	The ps output doesn't contain any lines with "UID.*PID" because the output fields list doesn't include UID. Instead, it has USER field and that is used.
35070036	3-31982216301	Few data sessions were getting FUI, even though there was some amount left for consumption. Customer reported following errors in system logs: 1. CR Request without IR Request 2. be VWARS RuntimeError: Handler error: DataError: Field 'VAL ' has a bad value (1434) 3. Whenever there is no start/expiry date set in any of the buckets for the balances involved in rating, call was failing with INSF. 4. A bucket which is going to be active during the grant window, is added for reservation. But commit request was coming before the bucket could become active, causing the error during commit.	During initial reservation, filter out those bucket values from available balances whose start date is in the future, or expiry date is in the past.
35069601	3-32016859421	According to the MM UG, the Concat Group is an optional field that disabled redirection if it is not defined. But if there is no value here, this error gets thrown in the xmsTrigger log: Feb 9 18:31:01.897365 xmsTrigger(21653) ERROR: Adapter MMX_REDIRECT_ADAPTER is defined in eserv.config but not in the database.	Added the logic to not write this debug when concat group is not defined.

Bug DB Number	Service Request (SR) Number	Issue Description	Solution Implementation
35060239	3-32098598521	When a balance type has a very large value, the reservations screen doesn't correctly show the Total Value/Available Balance values.	The value for Total Balance and Available Balance was stored in 32 bit integer format. When we tried storing bigger value, it was unable to store in 32 bit variable, causing some junk value displayed on to the screen while printing reservation balance info details.
35047545	3-33319851141 3-32058328041	When there are more than one LLIM node in the control plan, then slee_acs was crashing when it starts processing second LLIM FN.	Issue was because of invalid address of NodeContext index value. Updated the logic based on MAX_NUMBER_LLIM_INSTANCES to get the valid NodeContext index value.
35042818	3-32046720341	Time expenditure balance was going negative. 1. Negative values were coming because of datatype mismatch in variables. This issue was fixed as part of bug 34751877. 2. And fix from bug 34682772 was missing in customer box, because the January Jumbo patch 34949298 is not installed. However after the above 2 fixes, it was observed that time expenditure balance was not increasing at all. For a similar call, in older versions of NCC, time expenditure balance was increasing. This was happening because, as part of bug Bug 34682772, there was a correction in time expenditure balances calculation. So time expenditure balances would be incremented, only if there is a charge from time balance and the charged balance type is set to contribute to expenditure plan. Earlier in old versions of NCC, for time expenditure balance, the call duration was considered instead of actual time balance expenses.	1. Include fixes from bug 34751877 and 34682772. 2. Make it optional to use either call duration, or actual time balance in time expenditure balance calculations.

Bug DB Number	Service Request (SR) Number	Issue Description	Solution Implementation
35034305	3-32022944851	Call fails to connect every time whenever a call to a B Party number occurs with another operation that has the Caller Ring Back Tone (CBRT) service. List of the issues addressed: 1) The CSeq in the B-Leg PRACK is not being incremented for the second provisional response Example: B-Leg INVITE CSeq 1 B-Leg PRACK CSeq 2 B-Leg PRACK CSeq 2 Network rejects with a 500 error. 2) In the A-Leg provisional responses sent by NCC, the RSeq header appears twice, with conflicting values. 3) When call flow contains PRACK packets to B-Leg, then CSeq for BYE message is always set to 2. Because of this, network rejects with a 500 error because due to PRACK messages we are up to CSeq greater than 2 at this point. Example: B-Leg INVITE CSeq 1 B-Leg PRACK CSeq 2 B-Leg PRACK CSeq 3 B-Leg BYE CSeq 2 Network rejects with a 500 error. 4) During reinvite scenario OC3C is using CSeq 2 for the re-invite on the associated B-Leg which the network rejects with a 500 error because due to PRACK messages we are up to CSeq 102 at this point. Example: B-Leg INVITE CSeq 1 B-Leg PRACK CSeq 101 B-Leg PRACK CSeq 102 B-Leg re-INVITE CSeq 2 Network rejects with a 500 error	Solution for 2nd issue: RSeq header field was getting added two times. In order to avoid the duplicate entry in second time, added the condition in sendProvisionalResponse function. Solution for 1st, 3rd and 4th issues: Implemented solution is as below which handles any number of REINVITE and PRACK. Made code changes to make PRACK CSeq numbers get sequentially incremented from INVITE_CSeq_Number+100, and re-INVITE Cseq numbers sequentially incremented from just previous INVITE_CSeq_Number+200. BYE CSeq numbers are calculated based on previous_INVITE_CSeq_Number+199. In general: B-Leg INVITE CSeq 1 B-Leg PRACK CSeq INVITE_CSeq_Number+100, INVITE_CSeq_Number+101,INVITE_CSeq_Number+102 B-Leg re-INVITE CSeq Previous_INVITE_CSeq_Number+200 B-Leg PRACK CSeq RE_INVITE_CSeq_Number+100, RE_INVITE_CSeq_Number+101, RE_INVITE_CSeq_Number+102 B-Leg BYE CSeq Previous_INVITE_CSeq_Number+199
35033062	3-32020985341	After 12.0.6 upgrade, NCC is sending applyCharging with sendingSide set to leg1 where NCC5 set it to leg2.	Added support for backward capability to 5.0.2 so that existing 3pp requests will not fail.

Bug DB Number	Service Request (SR) Number	Issue Description	Solution Implementation
35032759	3-31937282971	During running of acsNumberNormaliseAction related to NOTF feature node, a random value of NoA for CLI number is received.	Changes are made to cast the data.buffer of the acsChassisActions to 'struct acsChassisActionNumberNormalise' and setting a fixed NoA 32767 in the 'sourceNOA' field.
35032565	3-32019511547	smsAlarmDaemon cuts last character from alarm message.	Code is modified to use the right index of the newline character returned by the 'strchar' function.
35024533	3-31993617121	slee_acs process is crashing on DAP2 FN.	Moved Exception statement to else condition after 4 and 8 byte if-else statement.
35022571	3-31984913381	String retrieved from the profile tag in 'EXN' node contains additional junk characters.	1) Assignment of the char* to string is not taking the profile length into consideration. 2) We need to call 'assign' function of 'std::string' and also pass the length of the profile.
35021865	3-31983171271	While setting date profile tag data, slee_acs process is crashing on PDS FN.	1) This issue occurs because time_t is of 8 bytes when binaries are built for 64 bit compatibility. 2) Current implementation uses memcpy to copy the value from tag to local time_t profileTime variable. 3) We need to use memcpy when the length of the date profile is 8 bytes. Else, we should typecast the value to local time_t profileTime.
35015098	3-31390871251	Temporary user lock is not working. When Temporary User Lock is enabled for a user, and that user account gets locked due to wrong password attempts, then user cannot login (with correct password), even after expiry of temp lock period. Example: If we set temporary lock time to 30 minutes, then temporary lock does not finish after the completion of 30 minutes. And user remains locked forever until we manually remove the temporary lock flags.	Restricted the login when temp_lock_expiry is set to a future value. Modified the code to compare the temp_lock_expiry (of smf_user table) and current time. If temp_lock_expiry is less than current time, then the account is locked and the user is not allowed to login.

Bug DB Number	Service Request (SR) Number	Issue Description	Solution Implementation
35014925	3-31390871251	Temporary user lock is not working. When Temporary User Lock is enabled for a user, and that user account gets locked due to wrong password attempts, then user cannot login (with correct password), even after expiry of temp lock period. Example: If we set temporary lock time to 30 minutes, then temporary lock does not finish after the completion of 30 minutes. And user remains locked forever until we manually remove the temporary lock flags.	Restricted the login when temp_lock_expiry is set to a future value. Modified the code to compare the temp_lock_expiry (of smf_user table) and current time. If temp_lock_expiry is less than current time, then the account is locked and the user is not allowed to login.
35012980	3-31954359121	slee_acs crashed while setting date profile tag data to variable part for ACS notification.	1) This issue occurs because time_t is of 8 bytes when binaries are built for 64 bit compatibility. 2) Current implementation uses memcpy to copy the value from tag to local time_t variable. 3) Length of the date profile field is 4 bytes because customer is upgrading from 5.0.3.0.0 (32 bit) to 12.0.6.0.0 (64 bit) version. So it did not copy the values in correct byte order on 64 bit. 4) We need to use memcpy when the length of the date profile is 8 bytes. Else, we should typecast the value to local time_t variable.
35005319	3-31936352321	ccsProfileDaemon crashes with 'Segmentation fault' with 64 bit compatible binary while processing 'Date' type profile tags.	1) This issue occurs because time_t is of 8 bytes when binaries are built for 64 bit compatibility. 2) Current implementation uses memcpy to copy the value from tag to local time_t variable. 3) Length of the date profile field is 4 bytes because customer was at 5.0.3.0.0(32 bit) version before the upgrade, so value was not copied in correct byte order when size of the time_t became 8 bytes. 4) We need to use memcpy when the length of the date profile is 8 bytes. Else, we should typecast the value to local time_t variable.
34958273	3-29747717221	EDR extension to support Bucket IDs.	Solution is provided with two phased approach: Calculate Bucket Level Cost. Use the calculated bucket level cost in the EDR, in a new tag (BUCKET_LEVEL_COSTS).

Bug DB Number	Service Request (SR) Number	Issue Description	Solution Implementation
34956307	3-31595018321	For IDP SMS, NCC is answering back with release SMS even if SMSC has responded back with eventTypeSMS: o-smsSubmission.	For SMCB node we need the release cause for sending the releaseSMS in the component TC-END. Code is modified to check the Release cause in the SMCB node. If the Release cause is 0, then no need to send releaseSMS.
34954593	3-31748957801	1) DCA set wrong Payload protocol identifier values (0x04 - SUA instead of 0x2E - diameter) in all SCTP packets. 2) When DIAMETER.DCAInstances.DiameterServer.protocol is set to "both", process is not listening on SCTP (only TCP). Root Cause: 1) Currently we are setting default value 4 (initialized in a constructor) as DCA payload identifier. But it should be set to 46 for sctp. 2) Even when DIAMETER.DCAInstances.DiameterServer.protocol is set to "both", it sets it to TCP as there is if-else block but it should be two separate if blocks and also we need a vector/array to store the protocol.	1) We will override the sctp_ppid field before sending it over network. 2) We will configure 2 peers for SCTP and TCP and in code pick the appropriate protocol for a peer so that process is listening for both SCTP and TCP.

Bug DB Number	Service Request (SR) Number	Issue Description	Solution Implementation
34954255	3-30526426441	In case of DAP Request to ASP, ASP sends [FIN/ACK], then in DAP side connection remains in CLOSE_WAIT and when new request is sent then it abort saying closed connection. Root Cause: In case of persistent connection, when a request comes that needs to be sent to ASP, DAP will create a FD and send to that socket FD and will keep polling to that FD until the response comes in. Once response comes DAP will move that FD to ideal state and FD will get removed from polling list, when the next request comes for that ASP, it will pick the ideal FD and use it for sending the request and so on. Since checkConnectionOpen function is not intelligent enough to detect closure of SSL socket, especially in case of close_notify from ASP, the asp closed connection error occurs.	Now checkConnectionOpen will have capability to detect closure of SSL socket. We have added SSL_peek functionality to check SSL sockets. SSL socket will be treated as open only when the SSL_peek returns greater than 0. Return value <=0 is treated as a close or error case. Based on this result, DAP will decide what action needs to be taken for ASP connections.
34946867	3-31738543581	There are more than 20+ patches to be installed to update to latest 12.0.6 patch level.	Created the consolidated rollup patch which includes fixes of all the bugs from 12.0.6 GA till 04-Jan-2023.

Bug DB Number	Service Request (SR) Number	Issue Description	Solution Implementation
34920912	3-31614110231	locApp not starting after SLEE restart. Shared memory is not getting cleared in case of immediate termination of process.	locApp process was terminated immediately (SIGKILL signal). So Semaphores memory that was linked to current process was not released successfully. So handling immediate termination of process. Since there is no process existing, but semaphores were existing as it was not handled in case of immediate termination. So when watchdog tries to restart the process, this acts like starting the nonFirstInstance of the process. Trying to access the wrong shared memory which was generated for the process which was terminated immediately (SIGKILL). Why changes in locApp startup script? If more than one process tries to access locApp cache, then in startup script if we are removing the created shared memory using(rm -ef) which is used by firstInctance of the process, this will cause problem. So removing (rm -rf) command from locApp startup script. In locApp, clear all the semaphores from code for the process which was terminated immediately (SIGKILL).
34919050	3-29906371511	MM schema import is getting successful but the SYSTEM_TYPE column value is getting updated as "NULL" in string format instead of NULL in the MMX_SMPP_CONNECTION table.	Added logic in the mmxSchemaTool.cc implementation to insert NULL instead of "NULL" in string format.

Bug DB Number	Service Request (SR) Number	Issue Description	Solution Implementation
34914813	3-31550370501	While reporting this issue, the customer referred to the 3GPP TS 32.299 doc and mentioned that Auth-Application-Id is mandatory in the Re-Auth-Request message. The issue from the customer is that in the Re-Auth-Request message, Auth-Application-Id is not getting sent from the NCC side. Sending of RAR is resulting in DIAMETER_COMMAND_UNSUPPORTED error.	Auth-Application-Id contains the application Id of Credit-Control-Application and has a fixed value of 4. So we added an AVP to the RAR message. The xmlSleeDcaIf is receiving dcaRarReq message and now as fix for this issue, "xmlSleeDcaIf "is adding an auth-application-id (with a value of 4, as hard-coded) to dcaRarReq message. xmlSleeDcaIf is using the data received in dcaRarReq message and is creating a diameter SLEE event message and is sending it to DCA.
34908118		1) Domain name (Billing Engine Name) was not taken into account for 'On-Demand' voucher creation. 2) Error codes for invalid voucher type and authentication mechanisms were not caught and displayed exclusively.	1) CCSVR1=COV command is modified to include 'DOMAIN_NAME' as request parameter. A new eserv.config parameter is added to handle default values of DOMAIN_NAME. Following are the new eserv.config parameter details: New SMS eserv.config parameter DEFAULT_DOMAIN_NAME Section : CCSVR1->COV

Bug DB Number	Service Request (SR) Number	Issue Description	Solution Implementation
			Parameter details: Syntax: DEFAULT_DOMAIN_NAME="billingEngineName" Description: The name of the domain/billing_engine under which on demand voucher needs to be generated. This default value is used, when the CCSVR1=COV request doesn't contain DOMAIN_NAME. Type: String Optionality: Optional. Allowed: The domain name must exist in the database Default: None. Example: DEFAULT_DOMAIN_NAME="VWS_DOMAIN" Co-relation between request parameter DOMAIN_NAME & eserv.config parameter DEFAULT_DOMAIN_NAME. 1. DOMAIN_NAME has precedence over DEFAULT_DOMAIN_NAME. 2. If DOMAIN_NAME is supplied in CCSVR1=COV request, then DEFAULT_DOMAIN_NAME is not used. 3. If DOMAIN_NAME is not supplied in CCSVR1=COV request, then DEFAULT_DOMAIN_NAME is used. 4. If DOMAIN_NAME is not supplied in CCSVR1=COV request and DEFAULT_DOMAIN_NAME is not specified in eserv.config as well then following will happen: A) There is only one domain in set-up: In this case the only available domain will be used in voucher generation. B) There are multiple domain in set-up: This is an error scenario. We must specify domain either in request or define a default in eserv.config.

Bug DB Number	Service Request (SR) Number	Issue Description	Solution Implementation
			2) The return error codes are modified as follows: Error codes / Return Code details: Following are existing error codes for CCSVR1=COV: 165 : Error while checking if ccsVoucher binary already running. 166: ccsVoucher already running (failed to execute even after wait & retries). 167: Error occurred while executing ccsVoucher binary. Unable to execute the binary. 168 : PROVIDER is not in incoming request, nor configured in eserv.config 169 : VOUCHER_TYPE is not in incoming request, nor configured in eserv.config 170 : AUTH_MODULE_NAME is not in incoming request, nor configured in eserv.config 171 : AUTH_RULE_NAME is not in incoming request, nor configured in eserv.config 172 : INITIAL_STATE is not in incoming request, nor configured in eserv.config 200 : On demand voucher created successfully 202 : Invalid Domain name (billing engine name) 203 : Invalid AUTH rule name / AUTH module name 204 : invalid Voucher type 205 : Other error in voucher creation. Note: Error codes 165 to 172 are pre-validation errors from PI. These are checks before actually executing ccsVoucher binary for voucher generation. Error codes 200 to 205 are post execution of ccsVoucher binary for voucher generation.

Bug DB Number	Service Request (SR) Number	Issue Description	Solution Implementation

34897869	3-29906371511	As per current design the default destination GT is copied from the incoming message. When RIMS query is successful, the destination GT set copied from RIMS response. In case of protocol error the MT forward is send with the GT.
		
		pusedo msidn was introduced as part of the below bug:
		Bug 16246301 - NO PSEUDO MSISDN GENERATED BY XMSTRIGGER FOR IMSI MASKED UNTRUSTED MT FORWARDSM
		
		Before bug 16246301, Message was not continued and error was reported.
			To solve the customer case, we will add a configuration parameter based on which the old behaviour (before 5.0.0 changes) of error handling will happen in case of protocol error from RIMS.
			
			reportProtocolFailure is added in the XMS section in xmsiMap adapter (config section), if the customer wants the behaviour as previous.
			
			XMS = {
			  xmsTrigger = {
			    adapters =[
			      {
			        lib = "xmsiMap.so"
			        config = {
			          reportProtocolFailure = true
			        }
			      }
			    ]
			  }
			}

Bug DB Number	Service Request (SR) Number	Issue Description	Solution Implementation
34887922		numberDataImport import csv files for table lookup. But if comma is part of some lookup value, then it throws error that extra number of fields. There should be some escape character that should allow to use comma in the lookup text.	numberDataImport tool takes csv file as input, process the comma separated values per line and inserts them in db. There is no option to input any lookup value having a comma to get processed and inserted in database. Wherever a comma is encountered the tool assumes it as a beginning of next lookup value. So the presence of comma was resulting in more than 3 lookup values found in a single line and was throwing error. We provided a solution in which whenever a comma is preceded with \(back-slash) then it will be treated as a normal comma character rather than a separator. Earlier we were using "cmnSplitString" to split the strings using comma as separator. Now to enhance the functionality as per this request, we changed "cmnSplitString" to "cmnExtSplitString". cmnExtSplitString --------------------- Extended string split function. It splits a string into tokens on a delimiter while considering the escapes.

Bug DB Number	Service Request (SR) Number	Issue Description	Solution Implementation
34833711		1. While creating vouchers for different voucher types via 'On-Demand' vouchers, it always created the voucher with the type of existing OD batch. 2. Vouchers with serial number length greater than 12 were not replicated to VWS. Root Cause: 1. While checking for any existing OD batch, the query to do the check did not take voucher type and auth hash rule into account. It just checked for the voucher code 'OD' & corresponding OD batch name. Then, for voucher request of different voucher types, it always found one existing OD batch (if already created) and used the same. As a result, all the new OD vouchers were created with same voucher type as in the existing OD voucher batch. 2. As part of bug 34508946, size of ccs_voucher_reference.serial_number was incremented to 12. Replication triggers (REP_CCS_VOUCHER_REFERENCE_AIU) in SMF DB were still referring to the old size (10). Hence the replication request created for serial_number of size 12 were corrupted (as trigger was creating with size 10 only).	1. Add Voucher type and auth hash rule check in the query, while checking for existing OD batch. 2. Modify trigger REP_CCS_VOUCHER_REFERENCE_AIU to consider SERIAL_NUMBER size as 12.
34817948		1) CCDB node does not support any chargeable balance types other than Cash. 2) 'Threshold' field in node's screen is limited to 32 bit integer size.	1) a. Changed the query used by code to show the chargeable balance types in 'BalanceType' dropdown to display 'Data' and 'Time' balances as well. b. We have added the code to have a new 'Type' dropdown that will let the user to select which balance type they need to do the sum of the charged balances.

Bug DB Number	Service Request (SR) Number	Issue Description	Solution Implementation
		3) ALLOWED_CHARS parameter is following restriction for 'DIGITSTRINGFIELD' when nodes are opened in edit mode. 4) Stored balance by node converts negative balances to unsigned equivalent integers.	2) Threshold field in now 'DIGITSTRINGFIELD' which supports up to integer 64 bit limit. 3) Modified the code to take the value of 'ALLOWED_CHARS' parameters by calling 'getDefaultParms' for consistent behaviour. 4) Modified the code to change the datatype from u_int32 to int32 to store the 'Time' balance type.
34804954	3-31063216621	When trying to update a bucket through the UI, sometimes it is impossible to save the bucket. The OK button does not do anything.	This issue is because of time comparison between original offset value and change offset value. The calculation of the current offset value is being calculated till MINUTE but the offset date value is stored with seconds as well. Hence, due to second mismatch, the validation was failing and not able to save value. Modification is done to call proper function call to calculate offset date in seconds as well.
34798233	3-31233290579	smsProcessCdr adds extra numbers to out suffix.	The index for 'cdrbuf' of getOutputFileName() and 'buf' of inputFileChanged() were already incremented in the for loop before assigning null character to it. So, we need not have to increment the index again. Re-increment for assigning null character for this charbuf/buf array was the reason for extra numbers being added.
34797821		$1 is randomly putting the balances in Post call notification. Expecting that default balance type should have highest priority to come in notification text but in some cases it is coming at second place.	Dealing default balance string and other balance string separately. At the end, we are making final string with default first and then other balance.
34795304	3-31230503741	Date profile tag is not correctly displayed in SPM in SMS screen. 64-bit Date profile field is not correctly displayed. 32 bit is correctly displayed.	As per code, date profile tag is considered 4 byte while loading from database. Load the Date profile in byte format. First 4 byte represent the size. Based on the size, set use integer and long value. Convert value to millisecond for display in loadValueFromProfile().

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34779642		Issues in Table Lookup feature: => The numberDataImport tool and Table Lookup FN supports the codes (in datasets) up to 40 chars. The customer raised a requirement to increase this length up to 150 chars. (a) Upgrade numberDataImport tool to process csv files having codes up to 150 chars. (b) Upgrade Table Lookup FN to retrieve codes up to 150 chars. => "#" symbol is used to add comments in csv files, customers want to use this character in code as well. /IN/service_packages/ACS/bin/numberDataImport tool does not import the lookup table if the csv file contains # in any lookup value. => numberDataImport tool is crashing when "#" is provided as a value in csv file. => In case of error, numberDataImport is trying to write error file at an invalid location resulting in error: " CRITICAL: Could not write to error directory "	Made DB and code changes to support up to 150 chars as codes in csv files. # is still treated as a comment in the csv file, but when preceded by "\" it is treated as a special character and the procession of that line is not terminated. Made appropriate code changes to fix the core dump and now the error file is getting created at the correct location.
34757159	3-31113770531	xmsStore process start-up fails due to invalid setting for xmsStore parameter userpass.	Modified xmStore userpass to SCP database connection identifier in sample eserv.config under /IN/service_packages/XMS/etc/.
34740667	3-30967411461	ccsCDRLoader is getting error while flushing the data into READ ONLY table-space.	Added configuration WEEKS_TO_KEEP_ONLINE, based on which weekly partition is kept online, before it is archived (made read-only).
34738311		smsProcessCdr giving blank values for some tags when processing CDRs having Thai language strings.	Current tag and value buffers where too less to hold long strings in Thai characters. Increased buffer sizes.

Bug DB Number	Service Request (SR) Number	Issue Description	Solution Implementation
34736404		Customer trying to establish connection with Kafka over TSL, but were not able to connect.	Below properties need to be added for Kafka connection. SSL_KEYSTORE_LOCATION_CONFIG SSL_KEYSTORE_PASSWORD_CONFIG SSL_TRUSTSTORE_LOCATION_CONFIG SSL_TRUSTSTORE_PASSWORD_CONFIG SSL_KEY_PASSWORD_CONFIG
34733458		Not able to retrieving any data when trying to retrieve the remaining balance data from array in call plan using Iterator node.	Changes are made to support both single node and multi node group AVP to copy to array Profile tag.
34730271	3-31016323291	During the upgrade from 5.0.3 to 12.0.6, customer faced issue with the escher message fields which have been upgraded to integer 64 bit in previous 12 series releases since 5.0.3 does not have int 64 bit support for escher messages.	We have made the changes to typecast int64 to int32 in escher messages going from a 12.0.6 node to 5.0.3 node when 'compatible32bit' flag is set to true. It is safe to do so as on 5.0.3 we will not have more than 32 bit data for any of the fields so no possibility of the integer fields getting rolled over.
34726917	3-30825687761	While running the command CCSCD1_DEL, PIProcess and PIbeClient are dumping core.	Changes made to avoid double free.
34713257	3-30954544291	Core file were generated in VWS for beVWARS.	Added changes to avoid null pointer segmentation fault.
34709784	3-30904524671	Can't identify if date was processed properly in buildPlayAnnouncement API. No debug statements in buildPlayAnnouncement for variable part cases.	Added additional debug statements in buildPlayAnnouncement API and specific debugs for variable part date calculation.
34698941		Subscriber MSISDN is not populated in report for redeemed voucher. However it is available in DB. MSISDN place holder is coming empty in Voucher status report.	Added logic to get VoucherRedeemingCLI from CCS_VOUCHER_REFERENCE. REDEEMING_SUBSCRIBER_ID in case of OC3C.
34690068	3-30890851511 3-30831286751	Customer tried to set a threshold for a RTWN to a value of 10TB and was not able to do it. The maximum value that is allowed is 2147483647 (max 32-bit signed integer).	Relaxed the limit from the SMS UI to allow more than 32 bit limit integer values in threshold field of RTWN screen.

Bug DB Number	Service Request (SR) Number	Issue Description	Solution Implementation
34682772	3-30770148181	Parameter 'not contribute to expenditure plan' setting was not applied/considered in case of "time" balance type.	Made code changes to consider 'not contribute to expenditure plan' configuration parameter in case of creditExpenditure calculation when the unit of balance type is "time".
34678382	3-32400730251 3-30615212571	Unable to Populate value in EDRs for AVP 3GPP-MS-Timezone (23), 3GPP-User-Location-Info (22) and User-Equipment-Info-Value (460).	The octets values copied to profile block is having an issue. Corrected logic to read the AVP octets and store to profile block.
34673494	3-30831286751	RTWN DAP request is fired against all wallets (primary and secondary).	Added the condition check for wallet type in functions handling different events.
34670894		All the EDR tags in the ACS CDR are always seen in GMT timestamp irrespective of the acs.conf parameter tzDefault given in other time zone.	Changes made to make sure EDR tags are seen in desired time zone configured as part of acs.conf or the prefix tree.
34670646	3-30734055751	Sending any SMS_MO to a prefix/special number that contains one letter, it will change that letter into the next one in alphabetical order.	Updated the decode string to decode the letters in telephone digit correctly.
34668544		FN Cost Call Duration Branching was not working.	Changes made to avoid exception case and catch exception.
34665146	3-30709264561	Named Event reservations aren't being considered when a subscriber makes a real time service reservation (IR).	ccsReservationHandlers for initial reservation is modified to fetch balances after adjusting the reserved funds.
34636292		SMS GUI is allowing to set the voucher expiry date in past that is earlier to the "Voucher Creation Date".	Restricted setting of voucher expiry time earlier than the voucher creation time.
34631491	3-30631715907	We are getting below warning at VWS: WARNING: Overflow for current value 18446744073709438366, returning 9223372036854775807	Changed the type of variable impacted from 'Unsigned' to 'Signed'.
34621572	3-30698603731 3-30298493141	OsdInterface cannot handle requests from different ACS customers through beServiceTrigger.	Added support of osd scp with service provider in eserv.config. Plugin needed to send notifications with acs customer id. beServiceTrigger will use configured osd_scp and service-provider to match the acs-customer from the plugin request and send request to proper scp.

Bug DB Number	Service Request (SR) Number	Issue Description	Solution Implementation

			- Added changes for beServiceTrigger to read configuration "osd_scps_custid" in below format:
			osd_scps_custid= [
			    {
			        host = ["SLC01:3311", "SLC02:4411"]
			        serviceProvider = 11
			    }
			]

34614676	3-30677179561	xmsTrigger cores on smsStats_HashDelta.	Made changes to avoid invalid/corrupted memory which is causing a crash.
34613462		Not able to send a USSD notification inside ongoing USSD session as network sends back "USSD Busy" error.	Modified existing UserInput node to send the Notification as announcement when we configure it for duration as 0. Duration 0 means it is not expecting any user input and will just display the notification.
34612842		When Temporary User Lock is enabled for a user, and that user account gets locked due to wrong password attempts, then user cannot login (with correct password), even after expiry of temp lock period.	Corrected behaviour of user temp lock.
34603062		Sometimes DAP is processing the response correctly, and sometimes even if response is received, it do not come out of DAP node and finally we receive error like No Response from ACS.	Changes made to support to read response if read in 2 socket reads.
34593952	3-30503334091	Customer wants to add a class of IP's. But NCC supports only single IP address addition in PI->hosts and OSD->ASPs.	Changes made to support class of IPs. IP address field accept IP in the following format: "x.x.x.x/n" where x is the decimal representation of IP field and n is mask digit. Changes made to validate the host IP belongs to class of IPs. If validation is success, then it will allow host to perform commands from PI or SOAP UI.
34592588	3-30581968041 3-30831286751 3-30531040461	The core issue is observed during real time notification, periodic charge renewal.	Changes made for plugin API miss-match.

Bug DB Number	Service Request (SR) Number	Issue Description	Solution Implementation
34587994		Currently only POST and GET is available with RESTClient. Need to add PUT support.	Added support for PUT in GenericRequest.
34585612	3-30531040461	DSR is applied twice on reservation.	Improved setValue with optional parameter "dsrApplied". If it is true, means value already comes with DSR applied, then set the same value. If false, then apply DSR and then set the value.
34578100		Cannot convert XML tags with one element to array in JSON in RESTClient.	New xml tag arrayXmlTags is added to support the list of tags to be converted to JSON array.
34573430	3-30214814001	Customer was seeing negative big value in case of expenditure balances.	Negative value of call duration was getting stored in unsigned integer. Now it is changed to signed integer.
34565195	3-30533004071 3-32604139311	CAPGW is sending wrong number when number in InitialDPSMS is having letters 'ac'. Example: In CAPGW, if receiving Called Party BCD Number = ac00061276432, then while sending the same in initialDP to slee_acs, it is translated as calledPartyBCDNumber(CAP)=(2)BA00061276432. Notice that 'ac' is translated to 'BA'.	It was found in analysis that CAPGW is not decoding the letters correctly in telephone digits. So the telephone digits sent by CAPGW to slee_Acs is wrongly decoded and is resulting in this issue. Updated the decode string to decode the letters in telephone digit correctly and also added new APIs to decode the CAPGW telephony digits.
34562651	3-30635423551 3-30531040461 3-30831286751 3-30581968041	Expired buckets were continued to be charged for calls, and in process made the bucket values go negative. During charging, while taking out buckets from a balance type, bucket id was stored in a temporary 32 bit integer variable. This caused the larger bucket ids (greater than 32 bit value) to be wrapped around and wrong negative bucket ids got stored in the temporary variable. Later when bucket search was done with this negative bucket id, it was not found. Assuming that this is a case of deleted bucket, and delta to be charged still left, charging went ahead like a post-paid bucket (for limittype = credit), causing the bucket to go negative.	Updated the temporary variable to a 64 bit integer variable.

Bug DB Number	Service Request (SR) Number	Issue Description	Solution Implementation
34560243		Outgoing USSD notifications always included MSISDN and OriginationAddress. Customer needed it to be configurable.	We have added two new config 'sendMsisdn' and 'sendOrigAddress' in XMS.macroNodes.SendUSSDNotificationNode section of eserv.config.
34552531	3-30526426441	When DAP fd is in idle state and ASP closes its connection by sending TCP FIN, then DAP doesn't have capability to handle it. Socket remains in close_wait state, and if new DAP request comes, it uses the close_wait fd. Later during read, DAP gets to know that the fd is already closed by ASP (osdInterface). Hence that request is treated as handled and looks to be disappeared because it tried to use the connection that has received FIN.	Added fd_set for read fds and in case of idle connection it will get checked that whether idle fd has something to read (FIN received or not). If yes, then DAP will try to read that fd where closure of connection gets detected and then DAP will also close the socket. A new connection will be created to process future DAP request. This created connection will be reused (as this is persistent) for future DAP requests until FIN arrives on this connection.
34551055	3-30520171401 3-31980472091	SDK does not allow to set 64bit balance value in the acsActionsAPI::ExtendedWalletUpdateRequest api call. According to the 12.0.4 SDK documentation, setBalanceValue is still int32.	Updated setter and getter API of Balance value in ExtendedWalletUpdateRequest class to support 64bit values.
34514940	3-30411734761 3-30831286751 3-30531040461 3-30581968041	The Java code in Voucher Manager and Promotions Manager are still enforcing signed 32-bit limits. Details: Voucher manager and promotions manager was not supported to handle 64bit values. Not only in java screen, entire voucher and promotional recharge flow was not supported to handle for 64bit values. There is a UI bug as well in this screen. If you click the Credit Percentage radio button, the text entry box for Credit Percentage stays grey, but the text entry box for Credit Amount stays un-grey. Picking either of the 2 radio buttons always greys/un-greys the opposite text entry box (and the Of Delta/Of Balance options un-grey for "Credit Amount").	1. For voucher Type we upgraded the recharge value to support 64bit values in java screen as well as in voucher recharge flow. 2. For promotions we upgraded the recharge value to support 64bit values in java screen as well as in promotions recharge flow. 3. Fixed the GUI issues in promotion->reward screen.

Bug DB Number	Service Request (SR) Number	Issue Description	Solution Implementation
34508946		CCS_VOUCHER_REFERENCE table allows only 10 precision for SERIAL_NUMBER but legacy system voucher serial numbers are having length up to 12 characters. We need to increase the number of characters for SERIAL_NUMBER column to allow the migration of legacy system vouchers.	To support the migration of SERIAL_NUMBER precision 12, increased the length of column to 12. CCS_VOUCHER_REFERENCE. Column SERIAL_NUMBER will remain intact to prevent data loss.
34473051		Existing code supports only the gpg keys/key format which gets generated by gpg version "gpg (GnuPG) 2.0.22". But gpg keys/key format which gets generated by gpg version "gpg (GnuPG) 2.2.20" was not supported. Manual as well as UI importation of gpg key was successful but there was issue during parsing of PublicKeys from Buffer(ccsGPGImportation.out_time_stamp file). Because of which CCS_GPG_KEYS table were not getting populated. So UI displayed key count as 0.	Made code changes to support the key format of gpg version "gpg (GnuPG) 2.2.20".
34396946	3-30116037651	Rolling snoops do not work on Linux.	1. Changed fuser command to support both Linux and SunOS environment. 2. Changed variable name inside delete_old_snoops() as older name was causing issue. 3. Clean-up of rolling-snoop.sh not working properly. Changes were made for clean-up to end all dependent processes. 4. Traces will now be available in directories created on per hour basis.
34393244		ATI Query is not getting the current location (CellID) from HLR. OC3C is only requesting (locationInformation and subscriberState). However, for the current location, we should pass currentLocation.	Added new parameter currentLocation along with locationInformation and subscriberState in ATI request. This can be controlled by new config parameter currentLocation in the eserve.config which will help to control sending of current location parameter along with ATI.

Bug DB Number	Service Request (SR) Number	Issue Description	Solution Implementation
34384687	3-30116267721	Output format of check binary was mixed up and unreadable. Given the field length, the defined column width was not enough. This resulted in no gap (spaces) between two fields in the output print, making it unreadable.	Increased column width for following fields: Name: old width = 16, new width = 24 Events: old width = 8, new width = 12 Limit: old width = 8, new width = 12
34383154	3-30116467731	1) eventCount field of sleeApplicationInstance was unsigned int. During a period of increased load, there are scenarios where evenCount can go negative. When eventCount went negative, it would become UINT_MAX which means this instance will get the events to process after all others instances are busy. To avoid this, we put a condition so that it stays at 0 even when it could go negative. So when corresponding increment of the eventCount happens, eventCount becomes 1 and stays like this. In this case when some of the instances gets stuck at eventCount 1, others start getting more traffic which lead to high memory usage by them. 2) Another memory leak issue was reported by customer in DetailedVoucherValue class.	1) Updated the eventCount as signed 32 bit integer and removed the condition which prevented eventCount from becoming negative. We have also modified the function howBusyAreYou to return eventCount as 0 when it is negative, so that load distribution does not get impacted as instance with negative eventCount will get preference over the ones with 0 eventCount queue. Modified the code to correct the formatting of 'check' binary output. 2) Updated release function call on unique_ptr with get so that it can be cleared.

Bug DB Number	Service Request (SR) Number	Issue Description	Solution Implementation
34382367	3-30088587171	xmlSleeDcaIF fails to parse DAP XML.	1. xerces used for XML parser is having functions which are overridden in our codebase. The parameter type used in overridden function is not matching with the actual one causing the default function to get called instead of overridden one. Changes are made on overridden parser function parameter type to fix the issue. 2. There was check for the availability of instance name which is actually stored in local variable and is getting cleared after every request. Because of this, NOTICE was getting generated on every RAR event request. Removed unnecessary conditional check to avoid this message to come to the logs. 3. Debugs are now changed to print only new values which are going to get assigned.
34354377	3-30030475521	WS doesn't show a full listing of processes when using the "pslist"	Modified the regex in /IN/service_packages/SUPPORT/lib/ps_listFunctions.bash.
34308480	3-29887323501	CCSRM1 PI command was failing with the error "IRES:Exception - basic_string::replace" CCSRM1 was sending the above error in case of negative clientMsgId. The issue was occurring because clientMsgId was initialised as an int in the map of WalletReservationList.	Changed clientMsgId to 64 bit integer in the map of walletReservationList.
34273595		CCSPart_maintenance.sh script is not running as a cron job. We are able to run the same script manually.	Checked the log and found that the maintenance script is blocked by another script "CCSPART_capacity_monitor.sh" which was already running as a cron job every 30 minutes. The blocker script "CCSPART_capacity_monitor.sh" is taking 8 to 9 seconds to finish running. So we changed the schedule of CCSPart_maintenance.sh script from 01:30 to 01:32.

Bug DB Number	Service Request (SR) Number	Issue Description	Solution Implementation
34217725	3-29653952764 3-30177096911	Observed random crashes of xmsTrigger process.	Avoided the invoking of the standard library empty function which causes the random crashes.
34201329	3-27984197321 3-32327895461	Customer was getting a null pointer exception error in the Java console when attempting to reset a password for an existing account.	Invoking a method on an object that has not been initialized causes a null pointer exception. Made sure the object is initialised before invoking a method.
34183054	3-31885143121 3-29560501951	DapIF was crashing and SIGABRT signal was sent from the watchdog on port 80. As per the stacktrace, it was struck in select (). When the endpoint was changed to OSD (TCP Port 4099), customer was getting the backtrace that dies in getsockopt(). The issue was occurring because of the control struck in a loop for around 9 minutes when encountered an error ("EALREADY") and then watchdog was sending SIGKILL signal to end the program.	Made changes to terminate the connection attempt, if the connection is in progress for more than 2 seconds.
34063451	3-29211958657	DUCR node not charging correctly in case of Multi CLI-DN. Max charge adjustment is done while debiting cash and later while doing apply charge. While doing apply charge, there was no check to identify if max charge is already adjusted. Hence even if max charge was adjusted during debit cash, it got adjusted again during apply charge.	Make 'apply charge' logic aware of already adjusted maximum charge. Set isMaxChargeAdjusted_ flag to true if the maximum charge adjustment is done during 'debit cash'. In 'apply charge' logic, do the max charge adjustment only if flag isMaxChargeAdjusted_ == false.
33958255	3-28559594771	When a user is attached with multiple templates having unique permissions of a screen expected the highest permissions to be assigned but it is contradicting for few screens.	As per the current implementation, for a particular user and for a particular application part, we will always use the last found access_id which is random and no ordering exists. So when reading the access rights from SMF_APPLICATION_ACCESS to make sure the last found access id is the maximum privilege, appended order by ACCESS_ID clause.

Bug DB Number	Service Request (SR) Number	Issue Description	Solution Implementation
33857852	3-27596564051	The core issue the customer was facing, is as follows: - Trying to move the PC forcibly to grace, before PC bucket expiry. - New expiry comes in past and hence throwing exception i.e. "State machine returned exception: Unsupported request type". Customer expectation is: New expiry should be in future, irrespective of movement from Active to Grace naturally, or forcibly before expiry.	Used the below approach to solve this issue: 1. Calculate last charge date. 2. Add grace days on to the last charge date. 3. So new expiry = last charge date + grace days. 4. If new expiry is in past and the new config parameter i.e. keepGraceExpiryInFuture is set, then change the new expiry as following: new expiry = original bucket expiry + grace days.

Bug DB Number	Service Request (SR) Number	Issue Description	Solution Implementation

33797650	3-28267068071	1. VPNST1_QRY was using older profile tag which no longer exists, causing the response to skip details for Offnet Call Barred.
		2. VPNNW1_QRY only returns top 9 networks, and there is no way to fetch rest of the network-station records.
			1. Updated the VPNST1_getVPNAllData() function to use appropriate profile tag (0x03000d instead of 0x00000017) for OFFNET. For already existing tags (created using old profile tags) to work, it needs to be modified to newer one. To do so, we have done changes in VPNST1_QRY. Whenever we run query command, it will check for older profile tags, and if it exists, it copies data from older PT to newer one and will delete older PT.
			2. A new parameter "OFFSET" is introduced to fetch network-station details in ordered form. Suppose we have below number of stations for each network:
			network1 – 40 stations
			network2 – 70 stations
			network3 – 50 stations
			So, the response will now be like:
			Offset=0 will print network1- 40 stations, network2-10 stations
			Offset=1 will print network2-next 50 stations
			Offset=2 will print network2-rest 10 stations, network3-40 stations and so on.
			Note that:
			   -> OFFSET can be used with or without NETWORK name in request parameter.
			   -> OFFSET will print the list of network-station details (50 at a time), irrespective of whether it belongs to same network, or different. Network names will be printed to differentiate which station belongs to which network.
			   -> If OFFSET passed is negative, response will get generated as "VPN offset must be positive".
			   -> If OFFSET passed crosses the number of available records, response will get generated as "OFFSET out of bound".

Bug DB Number	Service Request (SR) Number	Issue Description	Solution Implementation
33666671	3-27984378561	Multiple unhandled Null pointer Exceptions	Observed Nullpointer exception when attempted to open the ACS Configuration screens with newly created permissions template as mentioned in the Permissions.png. The configuration in the Permissions.png is in read-only mode, where the buttons like, Add, Edit, and Delete are not allowed. Tried fetching of these buttons (which returned null), upon which functions are called, which is causing the Nullpointer exception. As a solution, wrapped all the probable Nullpointer exception code blocks, in try catch blocks to handle all the Nullpointer exceptions.

Bug DB Number	Service Request (SR) Number	Issue Description	Solution Implementation
33637983	3-27914231141	In some case with CDR_TYPE=2 and SCENARIO=DAILY_WINDOW, malformed CDR are generated in the VWS. BILLING_ENGINE_ID=1|SCP_ID=155160451|SEQUENCE_NUMBER=417045430|CDR_TYPE=2|RECO RD_DATE=20230123195056|ACCT_ID=26777551|ACCT_REF_ID=26794722|WALLET_TYPE=41|^A p0H=^Ap0H|RATING_TYPE=ONLINE|SUBS_ID=87347188|REFERENCE=00014064128300|LOCATIO N=420602090042|SCENARIO=DAILY_WINDOW|ROAMING=NO|TELESERVICE=0|USAGE_TYPE=VOICE |ACCOUNT_TYPE=24|BALANCE_TYPES=1439|BALANCES=2147483646|COSTS=0|OLD_BALANCE_EX PIRIES=20230124195056|NEW_BALANCE_EXPIRIES=20230124000000|ACS_CUST_ID=21|MSISD N=420722945347	When checked, the malformed field is sent from SLC as part of WU message. Extended WU request is sent by _SBE node. The malformed field is in-between the default fields and control plan EDR fields. When checked in the case of Extended Wallet update, the extraInformation_ is not set to null. So some junk value is copied. extraInformation_ is now initialized with string terminating character.

Bug DB Number	Service Request (SR) Number	Issue Description	Solution Implementation
33628684	3-27264795401 3-27878548541	As part of Bug 33117954, a new parameter 'realTimeEventsPerIteration' was added. This was to control the timeouts observed in SLC when there was a VWS restart. During restart, each iteration beVWARS spent more time in syncing reservations instead of processing real-time events. It processed only one real-time event per iteration. In order to allow customizations around number of real-time events to be processed per iteration, this new parameter was added. Since Grovelling delay is directly proportional to the number of real-time events processed per iteration, whenever a high value was set for 'realTimeEventsPerIteration', it caused a grovelling delay. With recent down tuning of 'maxSendReservationsToSync' parameter, timeout issues are resolved. This makes this parameter 'realTimeEventsPerIteration' redundant.	Removed changes for 'realTimeEventsPerIteration'.
33099027	3-25047339781 3-26024194391	Changes in bug 18609295 and 18865465 introduced an MV to increase the performance of PMX allow/block lists has caused significant replication latency of the CCS_ACCT_REFERENCE MV.	In SMS, SCP, and BE changed the CCS_PMX_MSISDN_WHITE_BLACK_MV to On-Demand. Added the details of making MV on commit or scheduled so that customer can change according to their use-case.
31791286	3-31748957801 3-32127288521 3-23863683511 3-32596638841	1) DCA set wrong Payload protocol identifier values (0x04 – SUA instead of 0x2E - diameter) in all SCTP packets. 2) When DIAMETER.DCAInstances.DiameterServer.protocol is set to "both", process is not listening on SCTP (only TCP).	1. Updated the sctp_ppid field before sending it over network. 2. Configured 2 peers for SCTP and TCP, and in code, picked the appropriate protocol for a peer, so that process listens for both SCTP and TCP.

Bug DB Number	Service Request (SR) Number	Issue Description	Solution Implementation
28856872	3-29268379261 3-28848909471 3-18610614581 3-22640893171	Customer has an SDK module that acts as a bill bypass and simulates ongoing charging with ACS while allowing the network to continue unconditionally. Customer is introducing a "roam like home" product that would result in roaming MT calls hitting NCC and needing to be unconditionally terminated. This, coupled with pre-arranged-end configuration (AssumePreArrangedEnd 1 in acs.conf) is resulting in an undesirable message sequence for these calls if the SDK module is in the middle. Expected: [TC-BEGIN] iDP -> <-[TC-CONTINUE] Continue Received: [TC-BEGIN] iDP -> <-[TC-CONTINUE] Continue <-[TC-END] Abort Customer ported the fix from SR 3-18307515851(BUG 28650282 - SDK Doesn't Allow for Proper TC_CANCEL Handling and Breaks AWOL in ACS) into the SDK, which appears to be causing the abort - specifically - i.e. "Detect pre-arranged end on either the internal or external dialog, and shut down the other dialog when detected". If dialog closure is ignored, then there is dialog leak. If dialog closure is handled with current work-around, then the network gets an undesirable abort, which can't be controlled.	It was found that the TC_PRE_END primitive is not supported in the component primitive class. During AWOL flow the slee_acs generates the TC_PRE_END component primitive which is to be sent to OCMonitorIF (SDK interface) which further gets forwarded to SIGTRAN. It was not handled in our SDK code. Code modification is made to create new Component primitive in order to forward the TC_PRE_END in OCMonitorIF.

About Convergent Charging Controller Documentation

Where to Start

Convergent Charging Controller product documentation is available on Oracle Help Center:
https://docs.oracle.com/communications/F83448_01/index.htm

The first guides to look at should be those that help with the installation and configuration of the Convergent Charging Controller software.

The next set of guides should be those pertaining to your usage of the Convergent Charging Controller software.

The guides have been generally classified according to their use.

Third-Party Products and Licensing

For all the Oracle Communications Convergent Charging Controller licensing information and all related third-party product acknowledgments, see *Oracle Communications Convergent Charging Controller Licensing Information User Manual*.