Oracle® Communications Network Charging and Control

Release Notes

Release 6.0.1

April 2017

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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 Network Charging and Control release 6.0 and Oracle Communications Network Charging and Control release 6.0.1.

New Features

Network Charging and Control 6.0.1 includes enhancements to the following components:

- *Installation Enhancements* (on page 1)
- *Compatibility Enhancements* (on page 1)
- *Diameter Charging Driver Enhancements* (on page 1)
- *Messaging Firewall Enhancements* (on page 2)
- *Voucher Security Enhancements* (on page 2)

Installation Enhancements

This section describes the enhancements to the installer.

Use Existing Database

In previous releases, the NCC installer automatically created all databases on the user's system.

With this release, the NCC installer allows administrators to choose not to create a database. At the time of installation, administrators can associate an existing database. For more information about associating existing database, see *NCC Installation Guide*.

Compatibility Enhancements

This section describes the enhancements to compatibility.

Client Tools Compatible with JDK 9

All the NCC client tools are now compatible with JDK 9. NCC now uses Java Web Start (javaws), in addition to Java applets, for starting its client tool screens.

For more information, see the *NCC Installation Guide*.

Oracle Linux 7.2 Support

NCC is now supported on Oracle Linux 7.2. NCC 6.0.1 is certified on Oracle Linux 7.2 with critical patch updates.

For more information about installing NCC with Oracle Linux, see *NCC Installation Guide*.

Diameter Charging Driver Enhancements

This section describes the enhancements to Diameter Charging Driver (DCD).

New Mapping Method for Balance-Related AVPs

In previous releases, you mapped balance types from inbound Attribute-Value Pairs (AVPs) by using the `ccsBalanceScale` parameter in the **eserv.config** file, and you mapped balance types from outbound AVPs by using the SMS Service Management screen.

You now map Diameter AVPs between external balance types and internal NCC balance types by using the SMS Service Management screen. For example, you can use the screen to map NCC balance types to ECE or BRM balance types.

This enhancement introduces the following changes:

- The `DIAMETER.DomainTypes.ccsBalanceScale` parameter is no longer supported.
- You now apply conversion scale factors according to balance type by using the **Balance Type Mapping** tab of the SMS Service Management screen.
- The **Balance Type Mapping** tab now supports decimal scale values. Use decimal scale values when a third-party value must be divided to calculate the equivalent NCC value.

For more information, see the following guides:

- *Configuration User's Guide*
- *Diameter Charging Driver Technical Guide*
- *Charging Control Services User's Guide*
- *Diameter Control Agent Technical Guide*

If you are upgrading from a previous release of NCC, migrate your balance-related AVP mappings to the NCC 6.0.1 release. For details about migrating balance-related AVP mappings, see the *NCC Upgrade Operations Guide*.

New Grouped AVP Type

This release includes the new attribute-value pair (AVP) type GroupedUnitValue. The GroupedUnitValue AVP type calculates the balance value and exponent before applying any conversion factor.

For more information about the GroupedUnitValue AVP type, see *Diameter Charging Driver Technical Guide*.

Messaging Firewall Enhancements

This release introduces and includes a messaging firewall solution that provides native protocol message checking and handling within the defined protocol message flows. Messaging Firewall is protocol-aware, and checks and validates data to determine if the sender of a message is trusted or not.

Messaging Firewall performs the following functions, which are based on Visitor Location Register (VLR):

- VLR Steering
- VLR Velocity
- VLR Validation

For more information about messaging firewall, see the *Messaging Firewall Technical Guide*.

Voucher Security Enhancements

This section describes the enhancements to Voucher Security.

New Authentication Module

The voucher security feature is now enhanced with CB-10 HRN SHA256 and CB-10 HRN SHA512 authentication modules. The CB-10 HRN SHA256 and CB-10 HRN SHA512 authentication modules allow multiple levels of encryption. You can configure the number of iterations of encryption when authentication rule for CB10 HRN SHA256 or CB10 HRN SHA512 is defined. For more information about Voucher Security, see *Charging Control Services User's Guide*.

Known Problems

List of Known Problems

There are no known problems with this release.

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 for each component in order of BugDB number.

Service Request (SR) Number	Bug DB Number	Component	Title
3-7398429771	16987246	CCS	SLOW VALIDATION FAILURES ON IMPORTING RATE TABLES
3-8148683011	18374782	BE	Wallets going out of sync
3-10494577351	20797449	ACS	CAMEL4 ISSUE WHEN BCSM A DISCONNECT SET TO INTERRUPT MODE
3-10524013151	20837329	PI	PIprocess: Exit due to exception: St9bad_alloc
3-10883352301	20837329	PI	PIprocess: Exit due to exception: St9bad_alloc
3-10733372611	21084405	BE	Data Sessions Going Negative
3-10766775191	21120855	CAP3_GW	CAP3SMS doesnt support FCI/FCI_SMS
3-10750836801	21127671	BE	VWARS RuntimeError: Handler error: ActionSequenceError: There is no such reservation
3-11162117151	21127671	BE	VWARS RuntimeError: Handler error: ActionSequenceError: There is no such reservation
3-10843199861	21184532	SMINAPCA	Roaming Scenario in Camel V1
3-10892700481	21352545	CCS	Add maxReservationsPerSLEEMessage to eserv.config Examples
3-11052656051	21446138	OSD	osdInterface loadReportingPeriod Does Nothing
3-11162117151	21656548	CCS	beVWARS RuntimeError: There is no such reservation against Wallet
3-11052656051	21748881	OSD	osdInterface Does Not Report Rejected Traffic in Logs
3-11307891961	21795746	PI	Response from PI Crashes PI Client (Third Party App)
3-11410068971	21879576	PI	PIprocess stopped processing requests due to infinitive loop in signal handler
3-11527167471	22062619	ACS	Utility to dump Geographic Routing Table Data
3-11659900491	22158952	CCS	Default Control Plan for Capability appear unset when editing under different SP

Service Request (SR) Number	Bug DB Number	Component	Title
3-11659934771	22172133	BE	beClient core due to congestion - next occurence
3-11769399091	22268454	PI	XML PI interface not accepting header tag when more than one namespace is used
3-11777194911	22312384	ACS	SLC core dumps upon voucher type recharge
3-11793117661	22316201	CCS	Voucher batch creation script does not avoid parameters properly
3-11539253591	22392174	SIGTRAN	No alarm defined in SMF_ALARM_DEFN for m3ua_if receiving Unrecognised Trans. ID
3-12986518741	22392174	SIGTRAN	No alarm defined in SMF_ALARM_DEFN for m3ua_if receiving Unrecognised Trans. ID
3-13690436391	22392174	SIGTRAN	No alarm defined in SMF_ALARM_DEFN for m3ua_if receiving Unrecognised Trans. ID
3-12010530291	22551471	CCS	Copy Balance Details node cannot find balance type
3-12226424802	22551471	CCS	Copy Balance Details node cannot find balance type
3-11991894861	22561368	SLEE	SLEE core dumps on SLC
3-12773079291	22561368	SLEE	SLEE core dumps on SLC
3-11624300731	22601713	SMS	Missing E2BE statistics from DB
3-12132291071	22666165	BE	core from BeClient due to illegal message
3-12146000461	22679598	ACS	slee_acs core dumped on SLC resulting call interruptions
3-12239263741	22826643	DCA	DCA Crash Dump
3-10478725001	22867533	CCS	Negative balances for DCA sessions
3-12172106241	22891763	CCS	ccsAccount tool generates a lot of messages in logs
3-12311883001	22898438	SIP	SCA - Not handling SRP interaction followed by Attempt Termination
3-12312294571	22908321	SIP	P-Charging-Vector support for SCA when SRP involved in call.
3-12336737851	22925037	PI	PI product adds some extra tags in v5.0.3
3-11688773581	22963952	SLEE	slee_acs Error:TCAP Continue (2) or TCAP End (3) expected not the received 5
3-12076293991	22977157	DAP	dapExtras Installs dapIF as a UDG Interface
3-12146000461	22977839	ACS	Compilation of Control Plan with Invalid DoY Configuration Possible
3-12449084111	23091059	BE	NACK(INSF) returned from VWS on low data traffic sessions
3-11727702631	23094392	SIP	Sample sca.config Installs with Mis-Typed Parameter
3-12512210051	23097036	ACS	SCA ignoring inap_noa_calling_party parameter in sca.config file
3-12478074749	23118766	ACS	slee_acs core dumped on SLC
3-12599012261	23197679	DAP	RTWN sends 3 DAP notifications the same number

Service Request (SR) Number	Bug DB Number	Component	Title
3-11621488531	23247601	BE	beSync charges multiple timed-out reservations
3-12539621391	23247601	BE	beSync charges multiple timed-out reservations
3-12656825441	23247601	BE	beSync charges multiple timed-out reservations
3-12677668541	23247601	BE	beSync charges multiple timed-out reservations
3-13224507321	23247601	BE	beSync charges multiple timed-out reservations
3-12557640421	23279259	DCA	diameterControlAgent Throttles Traffic When Configured Not To
3-12727169351	23331484	BE	VWS responds with DataError: Field VAL has a bad value on a SR
3-13660077941	23331484	BE	VWS responds with DataError: Field VAL has a bad value on a SR
3-12737491781	23340182	SMS	100% CPU of PIprocess, smsTrigDaemon, smsMergeDaemon on SMS
3-12765024711	23340182	SMS	100% CPU of PIprocess, smsTrigDaemon, smsMergeDaemon on SMS
3-12765455881	23340182	SMS	100% CPU of PIprocess, smsTrigDaemon, smsMergeDaemon on SMS
3-12791363051	23340182	SMS	100% CPU of PIprocess, smsTrigDaemon, smsMergeDaemon on SMS
3-12800122001	23340182	SMS	100% CPU of PIprocess, smsTrigDaemon, smsMergeDaemon on SMS
3-12859749841	23340182	SMS	100% CPU of PIprocess, smsTrigDaemon, smsMergeDaemon on SMS
3-12759733501	23487921	SDK	SDK process for storing call context leaks memory
3-12775724021	23498815	DCA	DCA on 5.0.3 dumps core
3-12780172151	23504793	SMS	Merging CPU statistics (option -C 1) does not exist in v5.0.3 smsStatsDaemon
3-12449084111	23559803	CCS	NACK message from VWS for low traffic usage
3-12727169351	23559803	CCS	NACK message from VWS for low traffic usage
3-12843963271	23576112	SMS	SMS screens fail to recreate the replication config file
3-12859749841	23588111	ACS	Linux process SMSC consuming excessive CPU on Traffic Generator / SLC
3-12876270751	23617122	ACS	ACS Holiday Branch Issues
3-12902475231	23629529	BE	Negative ID in BE_BUCKET
3-11307891961	23635728	PI	CCSCD1 response formatting issue
3-12909168501	23664588	SIP	SCA with prack_support = true is sending a malformed PRACK response
3-13098875851	23664588	SIP	SCA with prack_support = true is sending a malformed PRACK response

Service Request (SR) Number	Bug DB Number	Component	Title
3-12951320951	23747347	SIP	SCA is not acting as a transparent proxy for the PRACK message
3-13098875851	23747347	SIP	SCA is not acting as a transparent proxy for the PRACK message
3-13120424141	23757151	SMS	Installer Fails to Install Crontabs
3-12939595321	23760336	BE	Multiple duplication buckets causes SleeException: No more events
3-12977977521	23855982	SIP	Oracle SCA - Not forwarding regular (BYE) transactions to A-side
3-13097039501	24006033	SIGTRAN	SIGTRAN Alarms Fail to Install on Fresh Installation
3-13102143100	24285001	CAP3_GPRS	CAP3GPRS DB Scripts Shipped but Never Executed
3-13113451421	24289679	CCS	Bind Variable Misspelled in CCS DB Install Script
3-13090479911	24289781	ACS	Number Lookup and Translation FN Installs with Incorrect DB Config
3-13113451436	24289873	CCS	Undeclared CCS Bind Variables During Installation
3-13113451464	24300014	SMS	OUI_cmnInstallDbVars.sh PROJECT_USER Environment Variable Invalid
3-13049580901	24321927	CCS	Unable to Add Ccs_Service Replication Group to a VWS
3-13056069911	24329076	BE	VWS Charges without EDRs
3-13064274911	24337835	DCA	Diameter Core on SLC
3-13074641821	24353593	SLEE	slpit for SMS-MO traffic does not accept variable for TP_DA parameter
3-13090003331	24402806	OUI	OUI Fails to Run SCA and RAP cmnInstallLib.sh
3-13136656131	24412652	SMS	smsCompareResyncServer is coring regularly
3-13074825231	24440138	ACS	SMS-MO latency on Linux
3-13193278221	24473269	SMS	Screens - Vouchers: ORA-01455 converting column overflows integer datatype
3-13213408591	24473269	SMS	Screens - Vouchers: ORA-01455 converting column overflows integer datatype
3-13874123311	24473269	SMS	Screens - Vouchers: ORA-01455 converting column overflows integer datatype
3-13094988211	24478282	CCS	Expiry of last bucket in wallet triggers charging Real Time Notifications
3-13204537911	24488475	XMS	SMSC Connection is not Binding for some xmsTrigger instance
3-13235940021	24568344	DCA	DCA does not override requested unit type with granted one from billing
3-13132292511	24579766	XMS	SMS-MO traffic on Linux is unstable and does not scale
3-13251096161	24585648	BE	Voucher Type Recharge (replace) creates new

Service Request (SR) Number	Bug DB Number	Component	Title
			bucket
3-13282319311	24589900	OUI	Remaining OUI Crontab Issues
3-13273111271	24596354	ACS	Wrong queryKey used by RIMS to retrieve info from cache
3-13302652441	24611536	SMS	create index REP_ORA_EVENT_PK - generates a deadlock on DB
3-13224507321	24617118	BE	Port Fixes from Bug 23247601 to NCC 5.0.1
3-13290861131	24617118	BE	Port Fixes from Bug 23247601 to NCC 5.0.1
3-13321501461	24663258	CCS	Balance overflows in CDR when display to spend ratio is used
3-13349194781	24687024	CCS	ccsVoucher_CCS1 not accept serial range with start/end higher than 2147483647
3-13366651031	24737473	CCS	CBAL FN Fails After Decoding Wallet/Balance Info Grouped AVP
3-13342280951	24755087	ACS	Collision of Call-ID from 4 SCA instances
3-13056069911	24758930	BE	Port Changes from Bug 24329076 to 5.0.2
3-13394788341	24764881	BE	Reincarnated reservations
3-13441999371	24807960	PI	PI crashes when a "=" character is used
3-13415511411	24810456	TOOLS	check4error.sh Uses Incorrect Date Format
3-13462897601	24828755	CCSPI	PI interface changes between 5.0.0 and 5.0.3
3-13510458841	24828755	CCSPI	PI interface changes between 5.0.0 and 5.0.3
3-11624300731	24833142	SMS	E2BE statistic not defined in SMF_STATISTICS_DEFN table
3-13472772921	24845429	DCA	All SLC core dumped
3-13442488541	24977929	CCS	beServiceTrigger Retry Sending Same Notification Causing Subscriber To Get Busy
3-13553258571	24978038	DCD	wrong conversion when retrieving a value stored in profileTag
3-13617074951	25076212	ACS	Find option with CHANGE_DATE is broken in 5.0.3.
3-13181134621	25093989	PI	PI.wsdl Duplicate Operation Definition
3-12977977521	25112306	SIP	Duplicated value for branch parameter of Via header field
3-13661107381	25112306	SIP	Duplicated value for branch parameter of Via header field
3-13739969161	25183164	BE	beVWARS processes crashed causing outage (primary and secondary VWS)
3-13884026201	25333696	XMS	xmsTrigger Silently Crashes if xmsStore is Not Running when processing a DR
3-14114912801	25453305	SDK	custom screens example provided in SDK does not load up
3-14294031781	25557849	OUI	Issues with background processes startup on Linux

About NCC Documentation

Where to Start

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

The next set of guides should be those pertaining to your usage of the NCC software.

The guides have been generally classified according to their use.

Installation and Configuration Guides

The following table lists the primary installation and configuration guides.

Guide Title	Media Pack File Name
Advanced Control Services Technical Guide	ncc_601_acs_tg.pdf
Advanced Control Services User's Guide	ncc_601_acs_ug.pdf
Concepts	ncc_601_concepts.pdf
Configuration User's guide	ncc_601_configuration_ug.pdf
Control Plan Editor User's Guide	ncc_601_cpe_ug.pdf
Feature Nodes Reference Guide	ncc_601_feature_nodes_rg.pdf
High Availability Operations Guide	ncc_601_high_availability_og.pdf
Installation Guide	ncc_601_installation.pdf
Release Notes	ncc_601_release_notes.pdf
Service Logic Execution Environment Technical Guide	ncc_601_slee_tg.pdf
System Administrator's Guide	ncc_601_sysadmin.pdf
Testing Utilities User's Guide	ncc_601_testing_utilities_ug.pdf
Upgrade Operations Guide	ncc_601_upgrade_og.pdf

External Provisioning Interface Guides

The following table lists the external Provisioning Interface guides.

Guide Title	Media Pack File Name
ACS Provisioning Interface Commands	ncc_601_acs_pi_commands_og.pdf
CCS Provisioning Interface Commands	ncc_601_ccs_pi_commands_og.pdf
MM Provisioning Interface Commands	ncc_601_mm_pi_commands_og.pdf
NP Provisioning Interface Commands	ncc_601_np_pi_commands_og.pdf
Provisioning Interface User's and Technical Guide	ncc_601_pi_utg.pdf
VPN Provisioning Interface Commands	ncc_601_vpn_pi_commands_og.pdf

Charging and Control Management Guides

The following table lists the primary charging and control guides.

Guide Title	Media Pack File Name
Charging Control Services Technical Guide	ncc_601_ccs_tg.pdf
Charging Control Services User's Guide	ncc_601_ccs_ug.pdf
Customer Care Portal User's Guide	ncc_601_ccs_ccp_ug.pdf

Guide Title	Media Pack File Name
Promotion Manager User's Guide	ncc_601_ccs_promotion_mgmt_ug.pdf
Voucher Manager Technical Guide	ncc_601_voucher_mgmt_tg.pdf
Voucher Manager User's Guide	ncc_601_voucher_mgmt_ug.pdf
Voucher Print Shop Operations Guide	ncc_601_voucher_print_shop_og.pdf

Messaging Manager Guides

The following table lists the primary messaging manager guides.

Guide Title	Media Pack File Name
Messaging Manager Navigator Technical Guide	ncc_601_mm_navigator_tg.pdf
Messaging Manager Technical Guide	ncc_601_messaging_manager_tg.pdf
Messaging Manager User's Guide	ncc_601_mm_message_mgmt_ug.pdf

Number Services Manager Guides

The following table lists the primary numbering manager guides.

Guide Title	Media Pack File Name
Number Portability Service Pack Technical Guide	ncc_601_np_service_pack_tg.pdf
Number Portability Service Pack User's Guide	ncc_601_np_service_pack_ug.pdf

Reference Guides

The following table lists the reference guides to use for Oracle Communications Network Charging and Control:

Guide Title	File Name
Advanced Control Services Alarms Guide	ncc_601_acs_ag.pdf
CAP3GPRS Control Agent Alarms Guide	ncc_601_cap3_gprs_ctrl_agent_ag.pdf
CAP3 SMS Gateway Alarms Guide	ncc_601_capgw_ag.pdf
CDMA U-CA-IS41 Alarms Guide	ncc_601_cdma_u_ca-is41_ag.pdf
Charging Control Services Alarms Guide	ncc_601_ccs_ag.pdf
Data Access Pack Alarms guide	ncc_601_dap_ag.pdf
Diameter Charging Driver Alarms Guide	ncc_601_dcd_ag.pdf
Diameter Control Agent Alarms guide	ncc_601_dca_ag.pdf
ENUM Control Agent Alarms Guide	ncc_601_enum_ag.pdf
Event Detail Record Reference Guide	ncc_601_edr_rg.pdf
Location Capabilities Pack Alarms Guide	ncc_601_lcp_ag.pdf
Messaging Manager Alarms Guide	ncc_601_mm_ag.pdf
Messaging Manager Navigator Alarms Guide	ncc_601_mm_navigator_ag.pdf
NP Service Pack Alarms Guide	ncc_601_npsp_ag.pdf
Open Services Development Alarms Guide	ncc_601_osd_ag.pdf
Provisioning Interface Alarms Guide	ncc_601_pi_ag.pdf
Radius Control Agent Alarms Guide	ncc_601_rca_ag.pdf
Roaming Alarms Guide	ncc_601_roaming_ag.pdf
Sample Message Flows Reference Guide	ncc_601_msg_flows_rg.pdf
Security Guide	ncc_601_security_rg.pdf

Guide Title	File Name
Service Logic Execution Environment Alarms Guide	ncc_601_slee_ag.pdf
Service Management System Alarms Guide	ncc_601_sms_ag.pdf
Session Control Agent Alarms Guide	ncc_601_sca_ag.pdf
Short Message Charging Bundle Alarms Guide	ncc_601_sm_charging_ag.pdf
SIGTRAN Alarms Guide	ncc_601_sigtran_tcap_if_ag.pdf
SMS Center Alarms Guide	ncc_601_sms_centre_ag.pdf
SMS Email Interface Alarms Guide	ncc_601_sei_ag.pdf
Subscriber Event Service Alarms Guide	ncc_601_ses_ag.pdf
Universal Call Agent for ISUP Alarms Guide	ncc_601_uca_for_isup_ag.pdf
USSD Gateway Alarms Guide	ncc_601_ussd_gw_ag.pdf
Web Services Description Language Reference Guide	ncc_601_wsdl_rg.pdf

Other Component Guides

The following table lists the guides for other components.

Guide Title	Media Pack File Name
CAP3GPRS Control Agent Technical Guide	ncc_601_cap3_gprs_ctrl_agent_tg.pdf
CAP3 SMS Gateway Technical Guide	ncc_601_cap3_sms_gateway_tg.pdf
Data Access Pack User's and Technical Guide	ncc_601_dap_utg.pdf
Diameter Control Agent Technical Guide	ncc_601_dca_tg.pdf
Diameter Charging Driver Technical Guide	ncc_601_dcd_tg.pdf
EDR Control Agent Technical Guide	ncc_601_eca_tg.pdf
ENUM Control Agent User's and Technical Guide	ncc_601_enum_utg.pdf
Location Capabilities Pack Technical Guide	ncc_601_lcp_tg.pdf
Location Capabilities Pack User's Guide	ncc_601_lcp_ug.pdf
Open Services Development User's and Technical Guide	ncc_601_osd_ug_tg.pdf
Radius Control Agent Technical Guide	ncc_601_rca_tg.pdf
Radius Control Agent User's Guide	ncc_601_rca_ug.pdf
Roaming Technical Guide	ncc_601_roaming_tg.pdf
Service Management System Technical Guide	ncc_601_sms_tg.pdf
Service Management System User's Guide	ncc_601_sms_ug.pdf
Session Control Agent Technical Guide	ncc_601_sca_tg.pdf
Short Message Charging Bundle User's and Technical Guide	ncc_601_sm_charging_utg.pdf
SIGTRAN Technical Guide	ncc_601_sigtran_tcap_if_tg.pdf
SMS Center Technical Guide	ncc_601_sms_centre_tg.pdf
SMS Email Interface Technical Guide	ncc_601_sei_tg.pdf
Subscriber Event Service User's and Technical Guide	ncc_601_ses_utg.pdf
Universal Call Agent for ISUP Technical Guide	ncc_601_uca_for_isup_tg.pdf
USSD Gateway Technical Guide	ncc_601_ussd_gw_tg.pdf
USSD Gateway User's Guide	ncc_601_ussd_gw_ug.pdf
Virtual Private Network Technical Guide	ncc_601_vpn_tg.pdf
Virtual Private Network User's Guide	ncc_601_vpn_ug.pdf
Voucher and Wallet Server Technical Guide	ncc_601_vws_tg.pdf

Guide Title	Media Pack File Name
XML TCAP Interface Technical Guide	ncc_601_tcap_if_tg.pdf

Third-Party Products and Licensing

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