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1. Introduction

1.1 Identification and Scope

This document is the CGS 8.3.0 SW Release Notes. The release is identified by document MPCV SRO (MPCV-RIBRE-SRO-0022).

<u>CI Name:</u>	CGS SW
<u>CI Number:</u>	1130992
<u>CI Variant:</u>	8.3.0

1.2 Purpose

The purpose of this software release is a delivery of a tested version of CGS for official use.

1.3 Document Layout

This document has the following layout:

Chapter 1 provides the document identification and identifies under which CI this document is prepared. It also identifies the next higher level component CI. Chapter 1 also provides an overview of the purpose of the document and the overall document structure.

Chapter 2 provides the list of documents which are applicable or are referenced.

Chapter 3 provides an overall description of the release. Thus in this chapter all SW products being integrated are listed including the temporary fixes necessary to run the SW. This chapter also provides the identification of CCU versions being used for the SW product integration (if any).

Chapter 4 provides an overview of the release status. This includes a statement on the current test status and the identification of SPRs being fixed with this release.

Chapter 5 provides the installation instruction for the CGS SW.

Chapter 6 provides a list of abbreviations being used

2. Applicable and Reference Documents

CGS Documents:

	<u>name</u>	<u>issue</u>	<u>date</u>
Technical Note			
MPCV-RIBRE-RN-0003	CGS SW Release Notes (Linux)	4	03.07.2015
CGS-RIBRE-TN-0002	The CGS Authorization Concept	2/B	04.09.2006
SW Release Order			
MPCV-RIBRE-SRO-0022	CGS Software Release Order (Linux)	1	03.07.2015
User Manuals			
CGS-RIBRE-SUM-0001	CGS User Manual	21/-	03.07.2015
CGS-RIBRE-SUM-0002	CGS Installation Manual (Linux)	11/-	31.12.2013
CGS-RIBRE-SUM-0003	MDA Reference Manual	1/G	05.04.2012
CGS-RIBRE-SUM-0004	MDA Administration Manual - see COL	1/-	
CGS-RIBRE-SUM-0005	DADIMA Reference Manual	1	09.11.2001
CGS-RIBRE-SUM-0006	DADIMA Administration Manual	1	09.11.2001
CGS-RIBRE-MA-0001	UCL Debugger User Manual	1	01.09.2004
CGS-RIBRE-MA-0003	call - A tool to add a graphical user interface to command line based programs	1/-	01.03.2006
CGS-RIBRE-MA-0004	"mdb - MDB Access Tool"	1/A	01.02.2009
CGS-RIBRE-MA-0005	"generate - Text Generation Tool"	1/-	01.03.2006
CGS-RIBRE-MA-0006	CDU Merge Users Manual	1	14.03.2006
CGS-RIBRE-MA-0007	Start Center - A generic user interface for multi-process systems	1/C	04.09.2007
CGS-RIBRE-MA-0008	An XML Based Configuration Concept	1/-	01.10.2006
CGS-RIBRE-MA-0010	Logger - A client/server based logging system	4/-	25.03.2014
COL-RIBRE-MA-0018-00	MDA Administration Manual	4/B	31.03.2000
COL-RIBRE-MA-0030-00	MDA Introduction Manual	3/B	04.04.1997
COL-RIBRE-MA-0037-00	DADIMA Introduction Manual	3	04.04.1997
COL-RIBRE-MA-0046	SID Range Tool Users and Operations Manual	1	15.09.1997
Reference Manuals			
CGS-RIBRE-STD-0001	User Control Language (UCL) Reference Manual	5/-	29.01.2010
CGS-RIBRE-STD-0002	High Level Command Language (HLCL) Reference Manual	5/a	29.05.2015
CGS-RIBRE-STD-0003	Virtual Stack Machine and I-Code Reference Manual	5/-	29.01.2010
Requirements Specifications			
CGS-RIBRE-SPE-0001	Columbus Ground System (CGS) Requirement Specification	2/D	23.03.2004
CGS-RIBRE-SPE-0002	CGS Test Case Specification and Test Procedure	7/-	30.06.2008
Design Documentation			
COL-RIBRE-ADD-0006	Columbus Ground System (CGS) Software Architectural Design Document	4/B	30.10.1997

3. Release Overview

3.1 CCU Version Identification

This CGS SW Release provides no mission database content.

3.2 Integrated Products

In following table integrated components are identified, delivered with this release of the CGS SW.

- USS 3.5.0 (see 4.3)

3.3 Release Media & their Contents

The System is delivered as ISO image as described in SW Release Order (MPCV-RIBRE-SRO-0022).

This delivery contains the CGS system as well as online documentation.

3.4 Identification of the Generation and Test Environment

The CGS SW generation environment is based on commercial baseline described in chapter 4.3 Commercial Baseline.

The CGS test environment is based on commercial baseline described in chapter 4.3 Commercial Baseline.

4. SW Release Status

4.1 Release Status

The release status is: **VALIDATED**

The SPRs fixed in this release have been regression tested as documented in the CGS SPRdb. It has been assessed that the code changes have no impact to the qualification status of other SW modules of CGS as released in former versions.

4.2 Test Status

This CGS SW was tested using the baseline as defined in Chapter 4.3. The test status is VALIDATED.

Only the SPRs fixed in this release have been regression tested as documented in the CGS SPRdb.

4.3 Commercial Baseline

- ✓ SUSE Linux Enterprise Server 11 / ServicePack3 / 64 bit
- ✓ Oracle 12.1.0.1.0 standard one edition
- ✓ CGS API build with gnat 7.3.1 (*)
- ✓ CIS CORBA Server built with PolyORB 2.9.29.2 (CORBA 3.0, GIOP 1.2)
- ✓ USS version 3.5.0 (build-20150629-0941) @ 117605 (*)
- ✓ Java 1.7 (*)

This CGS SW release shall be executed on Intel PC with SUSE Linux Enterprise Server 11 SP3 (64 bit) based environments.

(*) marked components are available on CGS delivery

4.4 Recommended Hardware Baseline

- ✓ It is recommended to use NVIDIA graphic card and the proper NVIDIA driver for usage of USS.

4.5 Recommended KDE settings

- ✓ It is recommended to set for each user the focus stealing prevention to "None" (KDE/Personal Settings/Desktop/Window Behaviour/Advanced/Focus stealing prevention level). This means: Prevention is turned off and new windows always become activated. (SPR-102860)

4.6 Compatibility Statement

The compatibility status of current CGS 8.3.0 and selected CGS components to previous CGS versions are shown below (✓ - compatible)

CGS Version \ Component	7.3.6	8.0.0	8.1.0	8.1.1	8.2.0	remark:
CGS software		✓	✓	✓	✓	new commercial baseline
MDB	✓	✓	✓	✓	✓	upward compatible
SAS (CGS API)				✓	✓	recompile requested - new CGS API in 8.1.0
CSS model		✓	✓	✓	✓	rebuild requested in 8.0.0
I-Code	✓	✓	✓	✓	✓	
UCL System Libraries						changed system libraries in 8.3.0
Command History	✓	✓	✓	✓	✓	

4.7 New or Updated Components

All software components are updated.

4.8 New features in CGS 8.3.0

What's new in CGS 8.3.0 (in different to CGS 8.2.0)?

There are many bug fixes and some improvements. No major changes are implemented in this version. Some of the changes are described in this section, for complete list see section 4.9.1.

4.8.1 DDED sometimes creates data base entries with gaps in entry numbers ([SPR-103392](#))

The solution of SPR-103392 avoids new gaps in entry lists.

To cleanup existing data in development status in MDB use following script as CGS administrator user in a shell once:

➤ `$CGS_HOME/gsaf/mda/config/mdb/install/admin_scripts/delete_or_correct_invalid_MDB_data`

4.8.2 New CGS configuration parameter ([SPR-103343](#), [SPR-103402](#))

Following configuration parameter are new in CGS 8.3.0:

- `TES.KERNEL.ARCHIVE.REMOVE_FILE_AFTER_STORE`

(A) Delete origin file after succesful storing to TRDB test session by system library call `GROUND_LIBRARY.ADD_USER_FILE_TO_TEST_SESSION` or
or
`TES_API` call `STORE_USER_FILE`.
If the value is set to
`true` => the origin file will be deleted after successful storing
`false` => the origin file will be unchanged.

Range: `true/false`
Recommended value: `true`

- `MDA.COMMAND_PACKET.BITSTREAM_NAMES_FOR_COUNT_OF_EMBEDDED_COMMANDS`

Bitstream Layout parameter names for number of embedded commands.
`Mda.Command_Packet.Bitstream_Names_For_Count_Of_Embedded_Cmds` contains the names of bitstream layout parameter, which shall be used for the number of related embedded commands.
The parameter names are case insensitive.

During command packet generation, the number of embedded commands will be evaluated. For the first Bitstream Layout parameter name matches with one of the configured names in this parameter, the value of this parameter will be substituted by the number.

- `MDA.COMMAND_PACKET.BITSTREAM_NAMES_FOR_CHECKSUM_LOCATION`

Bitstream Layout parameter names for checksum location in command packet.
`Mda.Command_Packet.Bitstream_Names_For_Checksum_Location` contains the names of bitstream layout parameter, which shall be used for the checksum location in command packet.
The parameter names are case insensitive.

During command packet generation, the checksum location will be

evaluated. For the first Bitstream Layout parameter name matches with one of the configured names in this parameter, the location of this parameter will be substituted by the evaluated location.
In case of substitution the packet global length parameter will be updated accordingly: $(5 + \text{number of embedded commands}) * 4$

4.9 SW Problem Status

4.9.1 SPR Status

For this CGS release 61 SPR's are solved.

SPR-102788	Some items of OOL Display's edit menu are initially enabled but should be disabled	
SPR-103100	configuration_editor: Exception in thread "AWT-EventQueue-0" java.lang.NullPointerException	
SPR-103107	CIS process grows	
SPR-103175	Replace Tcl package Iwidgets by standard Tk	
SPR-103209	describe all external components delivered with CGS and their license terms	EGFSW-190 (PFORGE)
SPR-103223	ABSTRACT end item types - prerequisites DDED	
SPR-103269	Generate Command Packet fails in case of long parameter names and long nicknames	
SPR-103285	DDED doesn't ask to saves end item changes on Quit	
SPR-103306	Composite aggregates cannot be shown if an end item is locked	MPCV-EGF-RIBRE-SPR-107
SPR-103309	Generate Command Packet does not detect removal of reference to Embedded Command	
SPR-103314	DDED cannot delete entries in selection boxes	
SPR-103321	Generate Command Packet application terminates with errors	MPCV-EGF-RIBRE-SPR-115
SPR-103322	Generate Command Packet performs wrong data mapping	MPCV-EGF-RIBRE-SPR-116
SPR-103323	Generate Command Packet does not map long state code name	MPCV-EGF-RIBRE-SPR-117
SPR-103331	USS: DURATION type's implicit engineering unit not known by USS Editor	MPCV-EGF-RIBRE-SPR-126
SPR-103332	TEV does not show COMMAND_PACKETs when browsing database contents	MPCV-EGF-RIBRE-SPR-127
SPR-103333	Consistency Checker problems	MPCV-EGF-RIBRE-SPR-128
SPR-103334	MDB Data Structure Extension needed for Decalibration Curve Type	MPCV-EGF-RIBRE-SPR-130
SPR-103335	Unclear and incomplete installation description for System Tree V4	MPCV-EGF-RIBRE-SPR-135
SPR-103336	MDB Data Structure Extension: New aggregate/attribute for simulator needed	MPCV-EGF-RIBRE-SPR-139
SPR-103343	ADD_USER_FILE_TO_TEST_SESSION drawbacks	MPCV-EGF-RIBRE-SPR-147
SPR-103346	Editing Bitstream Layout in DDED fails with ORACLE_ERROR	MPCV-EGF-RIBRE-SPR-148
SPR-103350	USS editor: failure doing creation of a button of a telecommand	MPCV-EGF-RIBRE-SPR-158 , USS-4106 (PFORGE)
SPR-103353	Missing error handling in Explorer's regular expression find for invalid input	
SPR-103354	DDED tools menu useless in its current implementation	MPCV-EGF-RIBRE-SPR-161
SPR-103356	Uniqueness check is superfluous for end item types CT_ROUTING	MPCV-EGF-RIBRE-SPR-163
SPR-103357	MDB Data Structure Extension: New aggregate for bitstream parameter calibrations	MPCV-EGF-RIBRE-SPR-136
SPR-103358	MDB Data Structure Extension: New attribute needed for aggregate EQUIPMENT_NAME	MPCV-EGF-RIBRE-SPR-142
SPR-103367	Generate Command Packet fails with 'parameter overlapping'	MPCV-EGF-RIBRE-SPR-172
SPR-103368	DDED: COPY-PASTE fails for 'Parameter Unsigned Integer Eng.Descr.'	MPCV-EGF-RIBRE-SPR-174
SPR-103369	CGS: NWSW Error: Test execution can not be started when workstations	MPCV-EGF-RIBRE-SPR-181

	are offline	
SPR-103371	EXCEL MDB: JVM Error: could not find main class	MPCV-EGF-RIBRE-SPR-171
SPR-103372	Too strong limitation for Destination LRUs	MPCV-EGF-RIBRE-SPR-182
SPR-103374	Online Raw Data Dump tool - cannot save data, tool hangs	MPCV-EGF-RIBRE-SPR-188
SPR-103375	Meta data for CDU version to be added	MPCV-EGF-RIBRE-SPR-138
SPR-103380	USS - Navigation Button Target Synoptic not selectable from MDB Tree	MPCV-EGF-RIBRE-SPR-189
SPR-103385	USS: Commands are sent with wrong actual parameter value	USS-4118 (PFORGE) , MPCV-EGF-RIBRE-SPR-198
SPR-103388	LOAD_SCOE completion message should become warning in case of generation problems	MPCV-EGF-RIBRE-SPR-200
SPR-103389	USS - Needed functionality: Allow to position display at mouse position	MPCV-EGF-RIBRE-SPR-202
SPR-103390	Generate Command Packets is not executed at CCU level	MPCV-EGF-RIBRE-SPR-206
SPR-103391	Wrong order in aggregate definition	
SPR-103392	DDED sometimes creates data base entries with gaps in entry numbers	MPCV-EGF-RIBRE-SPR-207
SPR-103393	Generic XML Writer: Crash during HTML generation with fatal error	MPCV-EGF-RIBRE-SPR-209
SPR-103394	Start Report Generator fails with Oracle error	
SPR-103395	setting of special MPCV parameters are erroneous	
SPR-103396	Data structure adaptations for routing definitions	MPCV-EGF-RIBRE-SPR-213
SPR-103397	Engineering Unit (psi) for Measurement End Item missing	MPCV-EGF-RIBRE-SPR-214
SPR-103398	LRU table end item and consistency checks not needed anymore	MPCV-EGF-RIBRE-SPR-215
SPR-103399	USS: Commands are sent with parameter type pathname are sent as strings	USS-4119 (PFORGE)
SPR-103400	USS Editor: Commands are prepared as structured has wrong time parameter value in parameter list	
SPR-103401	End Item Report crashes with "Unable to init profiles"	
SPR-103402	Mapping SW "Generate Command Packet" to be extended	
SPR-103404	GET_ITEMS is part of GROUND_VALUES instead of GROUND_LIBRARY	
SPR-103405	HCI crash	
SPR-103406	Some system library actions are not allowed for TRACKER item	
SPR-103408	DDED is not able to update column Name of General Bitstream Layout	
SPR-103409	USS System Configuration Browser starts with OPS view and shows onboard telemetry only	MPCV-EGF-RIBRE-SPR-224
SPR-103410	HCI: Monitoring Window - Add Items content not visible	
SPR-103411	New Attributes needed	MPCV-EGF-RIBRE-SPR-225
SPR-103412	Integrate USS 3.5.0 in CGS 8	
SPR-103413	Selection in mclistbox widget causes error dialog to pop up	

4.10 Known Problems

4.10.1 Further Open Problems

4.10.2 Known Restrictions

5. Installation Procedures

This software shall be used on Intel PC with SUSE Linux Enterpriser Server 11 (SLES11).

5.1 Complete Installation

For a complete installation follow the instructions of CGS installation manual CGS-RIBRE-SUM-0002.

Remark: The actual CGS installation manual is on DVD below `/<mountpoint>/doc/manual`.

5.2 Upgrade Installation

For an upgrade installation follow the next instructions.

The following syntax

```
cgsadmin> ls -al
```

means the shell command `ls -al` executed as user `cgsadmin`,


```
oracle> cd
```

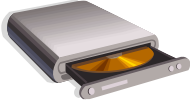
means the shell command `cd` executed as user `oracle`.

5.2.1 Needed passwords

1. `<cgsadmin>` (UNIX user)
2. `root` (UNIX user)

5.2.2 Installation steps (based on CGS 8.2.0)

1.  login as user `<cgsadmin>` on DB server host

2.  insert CGS DVD CGS_8.3.0
3. `mount DVD`
4. install all products from DVD
`cgsadmin> /<mountpoint>/installer.sh -auto start`


Select Exit (after installation)

5. `umount DVD`
6. replace changed system libraries
change in MDB the UCL system libraries
 - `ground_common.ucl`
 - `ground_library.ucl`
 - `ground_values.ucl`from file system `$CGS_HOME/gsaf/cgs/lib/ucl` and recompile all UCL sources.

7. regenerate SCOE data

Due to new end item types in MDB a new generation of SCOE data is mandatory.



8.  reboot server and if the server is ready, reboot all clients

6. Acronyms

AD	Applicable Document
ADD	Architectural Design Document
AP	Automated Procedure
ASCII	Americal Standard Code for Information Interchange
ATP	Authorization to Proceed
ATV	Autonomous Transfer Vehicle
CCB	Configuration Control Board
CCU	Configuration Control Unit
CCSDS	Consultative Committee for Space Data System
CGS	Core Ground System
CDU	Configuration Data Unit
CLS	CGS Language System
COTS	Commercial Off-The-Shelve
CPL	Crew Procedure Language
CPU	Central Processing Unit
D&D	Design and Development
DMS	Data Management System
DOF	Degree of Freedom
EGSE	Electrical Ground Support Equipment
EM	Engineering Model
EQM	Engineering Qualification Model
ESA	European Space Agency
ETM	Electrical Test Model
FDIR	Fault Detection, Isolation and Recovery
FM	Flight Model
GMT	Greenwich Mean Time
GNC	Guidance Navigation Control
GPS	Global Positioning System
HCI	Human-Computer Interface
HL	High Level
HLCL	High Level Command Language
HW	Hardware
ICD	Interface Control Document
IF	InterFace
ISS	International Space Station
LL	Low Level
MDB	Mission Database
MET	Mission Elapsed Time
MMS	Matra Marconi Space
N/A	Not Applicable
PDB	Project Data Base
PROM	Programmable Read Only Memory
RAM	Random Access Memory
RD	Reference Document
RFW	Request for Waiver
ROM	Read Only Memory
RV	RendezVous
S/C	SpaceCraft
SCCB	Software Configuration Control Board
SOC	Statement of Compliance
SPR	Software Problem Report
SRD	Software Requirements Document
SUM	Software User Manual
SW	SoftWare
SWRU	Software Replaceable Unit
TBC	To Be Confirmed
TBD	To Be Defined
TC	TeleCommand
TM	TeleMetry
TRR	Test Readiness Review
UCL	User Control Language
URD	User Requirements Document
UTC	Universal Time Coordinated
VCD	Verification Control Document
VTP	Validation Test Plan

