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CGS SW Release Notes

Kurzbeschreibung:
Abstract:

This document issue provides the description of the CGS SW release 7.1.1.

DCR Daten/Dokument-Änderungsnachweis/Data/Document Change Record

Überarbeitung Revision	**Datum** Date	**Betroffener Abschnitt/Paragraph/Seite** Affected Section/Paragraph/Page	**Änderungsgrund/Kurze Änderungsbeschreibung** Reason for Change/Brief Description of Change
2/-	30.04.2004	All	Version for 6.2.0
8/-	03.06.2005	All	version for 6.2.5
20	28.09.2007	All	version for 6.3.6
24	30.06.2008	All	version for 7.0.0
27	04.11.2008	All	version for 6.4.5
28	30.01.2009	All	version for 7.1.0
29	05.06.2009	All	version for 7.1.1

Table of Contents

1 Introduction

1.1 Identification and Scope

This document is the CGS 7.1.1 SW Release Notes. The release is identified by document CGS SRO [AD 2].

CI Name : CGS SW

CI Number : 1130992

CI Variant : 7.1.1

1.2 Purpose

The purpose of this software release is a delivery of a qualified version of CGS for a new operating system baseline.

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.

Appendix A provides a list of abbreviations being used

Appendix B provides a list of terms being used in a certain sense.

Appendix C provides the file listing of the delivery.

2 Applicable and Reference Documents

CGS Documents:

	name	issue	date
Technical Note			
CGS-RIBRE-TN-0001	CGS SW Release Notes (Linux)	29	05.06.2009
CGS-RIBRE-TN-0002	The CGS Authorization Concept	2/B	04.09.2006
SW Release Order			
CGS-RIBRE-SRO-0006	CGS Software Release Order (Linux)	29	05.06.2009
User Manuals			
CGS-RIBRE-SUM-0001	CGS User Manual	8/-	30.01.2009
CGS-RIBRE-SUM-0002	CGS Installation Manual (Linux)	3/A	01.12.2008
CGS-RIBRE-SUM-0003	MDA Reference Manual	1/E	30.01.2009
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-SUM-0007	GWDU User's and Operations Manual	2	28.08.2006
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/-	01.03.2006
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
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	4/-	01.02.2009
CGS-RIBRE-STD-0002	High Level Command Language (HLCL) Reference Manual	4/-	01.02.2009
CGS-RIBRE-STD-0003	Virtual Stack Machine and I-Code Reference Manual	4/A	01.02.2009
COL-RIBRE-STD-0008	Reference Manual for Crew Procedure Language and Software, Commanding	1/F	31.10.2001
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

	Columbus Ground System (CGS)		
COL-RIBRE-ADD-0006	Software Architectural Design Document	4/B	30.10.1997

Interface Definitions

CGS-RIBRE-ICD-0001	System to CGS ICD	1/-	31.01.2002
CGS-RIBRE-ICD-0002	MDB Standard Entities and Application Program Interface	1/-	
ESO-IT-LI-0070	List of IRNs fromCGS-RIBRE-ICD-0001	1	01.07.2008
ESO-IT-LI-0071	List of IRNs from CGS-RIBRE-ICD-0002	1	01.07.2008

USS Documents:

	name	issue	date
SW Release Note			
COL-RIBRE-RN-0255	USS 2.18.0 Software Release Document	14	26.01.2009
SW Release Order			
ESO-IT-SRO-0143	USS SW V2.18.0	1/-	28.01.2009

3 Release Overview

3.1 CCU Version Identification

This CGS SW Release provides no mission database content.

3.2 Integrated Products

In following table all SW components are identified necessary to build this release of the CGS SW.

- CGSI
- CLS
- DBS / Command History
- GWDU
- HCI
- MDA / CGS_MDB_V7_1_1
- TES
- TEV
- TSCV
- TSS
- CGS_API

3.3 Release Media & their Contents

The System is delivered on DVD as described in SW Release Order of ref. [AD 2].

This delivery contains online documentation only.

3.4 Identification of the Generation and Test Environment

The CGS SW Generation environment is described in chapter 5 of the release notes of ref. [AD 2].

This version is internal identified by PDB checkpoint CGS_7.1.1_200906041604_LINUX**.**

4 SW Release Status

4.1 Release Status

The release status is: **FORMAL RELEASE**

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 on commercial baseline. The test status is delta qualified by CGS - AIV.

4.3 Commercial Baseline

- ✓ Suse Linux Enterprise Server 10 / ServicePack2 / 32 bit
- ✓ Oracle 11.1.0.6.0
- ✓ Gipsy 4.3.2
  - ftp://ftp.prs.de/pub/packages/gipsy432/g43-linux.tgz
  - with patch pr3551 (ftp://ftp.prs.de/pub/packages/gipsy432/g432-080403-pr3551.tbz)
- ✓ CGS API build with gnat 6.1.2
- ✓ CIS CORBA Server built with PrismTech OrbAda 2.7.0 (CORBA 2.5, GIOP 1.2)
- ✓ USS 2.18 (*)
- ✓ Java 1.6.0_04 (*)

This CGS SW release shall be executed on Intel PC with SUSE Linux Enterprise Server 10 (SLES10 - 32 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 Compatibility Statement

The CGS software is compatible to CGS 7.1.0.

The Special Application Software (SAS) build with CGS API CGS 7.1.0 are compatible to current CGS version. But CGS recommends to recompile SAS and link it against new CGS API.

4.6 New or Updated Components

All software components are updated slightly.

4.7 New features in CGS_7.1.1

What's new in CGS_7.1.1 (in different to CGS 7.1.0)?

This is a bug-fix version of CGS. No functional changes have been performed. But a new conversion possibility for command history partitions has been added.

4.7.1 Change the Command History table partitioning from daily to monthly

The script $CGS_HOME/gsaf/dbs/util/common/command_history/convert_to_monthly_partitioning change the partitioning to monthly:

Preconditions:

1) The Command History must be stopped
2) The current partitioning should not be monthly (M 1)
3) No export or import of database content is necessary

4.8 SW Problem Status

4.8.1 SPR Status and Impact Analysis

For this release 53SPR's are solved.

ID▲	TITLE
SPR-101280	Error during MDB Report Generation (during converison XML to PDF)
SPR-101374	Cannot use environment variables when calling a command sequence
SPR-101496	MCS privilege problem - solved by nfslock restart
SPR-101596	TEV reports unwanted error message
SPR-101712	UCL: String cut-off
SPR-101730	Error in ADT_PACKED_FILE.OPEN
SPR-101778	Command History stopped running on the DBS
SPR-101788	Error messages during loading of simulation model
SPR-101800	data viewer: label overloaded
SPR-101804	Cmd History: OCI.ORACLE_FAILOVER reported - no results returned
SPR-101814	CSS kernel cannot be stopped after TSS restart
SPR-101818	Graph Tool of CGS/TEV shows incorrect eng. value zero for first measurement
SPR-101822	Start Center: Errors in Info functions
SPR-101843	CLS Batch Compile Window: Exit button superfluous
SPR-101844	jotc.sh:GSAF_TOOLS environment variable not set. Unable to start, exiting
SPR-101845	Abnormal program termination (status=139).
SPR-101849	HCI does't start, if Oracle listener not running
SPR-101851	UCL compile failed
SPR-101853	CLS: postinstall does't check MDB availability
SPR-101854	CLS Editor: Address overflow
SPR-101855	Command History change from daily to monthly partitions
SPR-101856	No TM data received from CIS through MOIS socket interface
SPR-101857	CLS: Signature should not include implicit alias
SPR-101860	CLS batch compile doesn't compile all necessary units
SPR-101877	Command history export_partitions fails with ORA-00001

SPR-101880 Constraint_Error from function Secondary_Header (CGS API)
SPR-101881 Missing I_MDB tool invocation entry "Mapping Procedure"
SPR-101884 Cannot use css_api from CGS 7.1.0
SPR-101887 Problem with Blocking Read in CSS_Message_Connection
SPR-101895 DDED wrongly denies access to MDB item
SPR-101897 CIS Client Request Failed : DBS_RPI returned duplicate History_Report_ID
SPR-101900 Online-Test-Control crashes ('Alarm clock')
SPR-101901 BDE's batchconfig.com doesn't work for filename greater than 80 characters
SPR-101902 Configure Host in CGS Installer doesn't configure a client
SPR-101903 Unable to execute UserLibrary function (Stack underflow)
SPR-101904 I_MDB error occurs when copying CCU that contains CDIs
SPR-101907 Derived value error/ stack underflow
SPR-101909 PATH variable not set if process is started via CGS ProcessCreationServer
SPR-101912 CLS: Compilation Problems/ SID Errors after exchange of CDU
SPR-101913 Starting CSS kernel reports "Bad Message Length" error
SPR-101915 vit_manager raised CONSTRAINT_ERROR
SPR-101916 start_css_ui blocks cgs applications
SPR-101917 CLS compiler uses different time sources
SPR-101918 CLS Internal error in Expression Parser
SPR-101924 UCL rounds duration values bigger or equal .5 to higher value
SPR-101931 Error when calling an HLCL procedure in the filesystem from an HLCL procedure in the filesystem
SPR-101933 The Return Code of cls_editor in batch mode is always 1
SPR-101935 In CGS 7.1 the SIGPIPE handler is not implemented in signal_handlers part of css_api
SPR-101939 MDB import failed
SPR-101940 TES: GNAT.SOCKETS.SOCKET_ERROR - Too many open files
SPR-101951 COL-RIBRE-SPR-14235 not implemented in CSS part of CGS 7.1.0
SPR-101953 Command History import_partitions does't import all Extended Key Values
SPR-101956 Exception name: CONSTRAINT_ERROR - Message: lc_stack_machine.adb:2038 range check failed

4.9 Temporary fixed Problems

4.9.1 Further Open Problems

- SPR-100844 - It is not possible to align dynamic string parameter. CGS can handle unaligned parameter only.
- SPR-100868 - SAS linked with the CGS API and using posix.process_primitives.exit_process are hanging. Use the system call _exit (not exit !) instead of posix.process_primitives.exit_process.

4.9.2 Known Restrictions

- It is not possible to prepare a telecommand (SWOP, FLAP, PUS_TC, and TC) via CIS, if this telecommand is defined with garded parameters in the parameter lists.
- SPR-101245 - CIS clients to implement sufficient large timeouts that can deal with a 10 seconds delay of 'Login' or 'subscribe<service>' requests.

- Not all interfaces for the new CGS IDL 2.0 are implemented in CGS:

  Note: unsupported `'oneway void'` calls are stubs, just generating a debug message `'<Procedure_Name> -- to be implemented --'` with debug output enabled.

  o - not (yet) supported by CGS:

  - Calibration description as telemetry property:
    - not yet supported by CGS: no calibration updates are sent by CIS

  - Telemetry report deliveries:
    - Telemetry data reports not yet supported:
    - `Telemetry.getTelemetryReport` raises `ServiceNotAvailable`.
    - `Telemetry.cancelTelemetryReport` is empty.
    - `TelemetryClient.telemetryReportDelivery` is never called by CIS.

5 Installation Procedures

This software shall be used on Intel PC with SUSE Linux Enterpriser Server 10 (SLES10).

5.1 Complete Installation

For a complete installation follow the instructions of CGS installation manual ref. [AD 2].

To upgrade from CGS 6 follow the instructions of CGS installation manual, chapter 8.

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

5.2 Patch Installation (based on CGS 7.1.0)

For a patch installation follow the next instructions:

5.2.1 Needed passwords

```
1. <cgsadmin>    (UNIX user)
2. root          (UNIX user)
3. <oracle>      (UNIX user)
4. <MDB_ADM>     (oracle user)
```

5.2.2 Installation steps

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

2. cgs shutdown via cgs start_center

3. stop command history / central distributor (on command history server)
   in shell: $CGS_HOME/gsaf/dbs/bin/common/stop_cmd_history
   in shell: $CGS_HOME/gsaf/dbs/bin/common/stop_central_distributor

4. quit cgs start_center

5. terminate the cgs_daemon
   in shell: killall -9 cgs_daemon

6. insert CGS DVD CGS_7.1.1

7. mount DVD

8. install all products from DVD
    in shell: /<mountpoint>/installer.sh

    Select Continue, Continue, Install,          -- for CGS
           Previous, TOOLS,   Continue, Install  -- for TOOLS

    Select for Installation Source path /<mountpoint>/addon

           Previous, CGS, change path, Continue, Install
                                                 -- for add-ons (unsupported)
           Exit

9. unmount DVD
```

10. update the MDB / MDB stored procedures

    in shell:

    ```
    $CGS_HOME/patches/patch_mdb.sh
      -- needs ca. 10 minute
    ```

    REMARK: The next command is only necessary for a better performance of MDB access.
    This command is optional and the usage shall be decided by projects.

    $CGS_HOME/gsaf/mda/config/mdb/install/admin_scripts/gather_mdb_stats

11. update CGS directory structure and distribute for each user, defined in privilege file, the .login and .cshrc files

    in shell:

    ```
    $CGS_HOME/patches/patch_cgs.sh
    Please enter root Password:
    ```

12. login as <oracle> on DB server host

13. turn off the OCI signal handler
    (from OCI documentation:
    To turn off the OCI signal handler and re-enable standard operating system failure processing, place the following parameter setting in `sqlnet.ora`:
    `DIAG_SIGHANDLER_ENABLED=FALSE`)

    in shell:

    ```
    vi $ORACLE_HOME/network/admin/sqlnet.ora and add following:
    DIAG_SIGHANDLER_ENABLED=FALSE
    ```

14. recompile your UCL sources (batch compile)

    CGS recommends to recompile all UCL sources (system libraries, user libraries, automated procedures, derived values) due to different CLS SPR solutions.

15. 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 Commitee 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