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CGS SW Release Notes

Kurzbeschreibung:
Abstract:

This document issue provides the description of the CGS SW release 6.3.0 (engineering release for qualification purpose) based on CGS 6.2.6 (and CGS 6.2.6.1) release.

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	Initial release (6.2.0)
2/A	13.05.2004	All	Bug Fixes (6.2.0.1)
2/B	07.07.2004	All	Extended Functionality for Aeolus (6.2.1)
2/C	27.08.2004	All	Extended UCL Debugger Functionality (6.2.2)
2/D	10.09.2004	All	Bug Fixing for 6.2.2
2/E	22.09.2004	All	Bug Fixing for 6.2.2
2/F	15.10.2004	All	Bug Fixing for 6.2.2
2/G	22.10.2004	All	Final version for 6.2.2 (B14)
2/H	17.12.2004	All	version for 6.2.3 (B15)
2/I	28.01.2005	All	version for 6.2.3 (B18)
3/-	11.02.2005	All	version for 6.2.3 (B20)
4/-	18.02.2005	All	Final version for 6.2.3
5/-	11.02.2005	All	version for 6.2.4 (B21)
6/-	22.04.2005	All	Final version for 6.2.4
7/-	03.06.2005	All	version for 6.2.5 (B24)
8/-	03.06.2005	All	Final version for 6.2.5 identical to 7/-
9/-	14.10.2005	All	Final version for 6.2.6_LINUX_B27
10/-	14.10.2005	All	Final version for 6.2.6 identical to 9/-
11/-	06.12.2005	All	version for 6.2.6.1
12/-	03.04.2006	All	version for 6.3.0

Table of Contents

1 Introduction

1.1 Identification and Scope

This document is the CGS 6.3.0 SW Release Notes. The release is identified by document CGS SRO [AD 2.1.1].

CI Name : CGS SW

CI Number : 1130992

CI Variant : 6.3.0

1.2 Purpose

The purpose of this software release is a delivery to CGS AIV to qualify it.

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

2.1 Installation Manuals

CGS-RIBRE-SUM-0002: CGS Installation Manual, Issue 2/-, 12.09.2003

2.1.1 Software Release Order

CGS-RIBRE-SRO-0006: CGS Software Release Order, Issue 12/- 03.04.2006

2.2 User Manuals

CGS-RIBRE-SUM-0001:	CGS User Manual, Issue 3/A, 03.03.2006
COL-RIBRE-MA-0030-00	MDA Introduction Manual, Issue 3/B 4.4.1997
CGS-RIBRE-SUM-0003	MDA Reference Manual, Issue 01/C 27.03.2006
COL-RIBRE-MA-0018-00	MDA Administration Manual, Issue 4/B 31.03.2000
COL-RIBRE-MA-0037-00	DADIMA Introduction Manual, Issue 3/- 4.4.1997
CGS-RIBRE-SUM-0005	DADIMA Reference Manual, Issue 01/- 09.11.2001
CGS-RIBRE-SUM-0006	DADIMA Administration Manual, Issue 01/- 09.11.2001
CGS-RIBRE-MA-0001	UCL Debugger User Manual, 1/-, 2004-09-01
COL-RIBRE-MA-0046	SID Range Tool Users and Operations Manual, Issue 1/- 15.09.1997
UM-114-001-ROV	GWDU User's Manual and Operations Manual, Issue 1.4, 1999

2.3 Reference Manuals

CGS-RIBRE-STD-0001	User Control Language (UCL) Reference Manual, Issue 3/-, 01.12.2005
CGS-RIBRE-STD-0002	High Level Command Language (HLCL) Reference Manual, Issue 3/-, 01.12.2005
CGS-RIBRE-STD-0003	Virtual Stack Machine and I-Code Reference Manual, Issue 3/-, 01.12.2005
COL-RIBRE-STD-0008	Reference Manual for Crew Procedure Language and Software, Commanding, Issue 1/F, 31.10.2001
CGS-RIBRE-MA-0003	call - A tool to add a graphical user interface to command line based programs, 1/-, 2006-03-01

2.4 Requirements Specifications

CGS-RIBRE-SPE-0001	Columbus Ground System (CGS) Requirement Specification, Issue 2/D, 23.03.2004

2.5 Design Documentation

COL-RIBRE-ADD-0006	Columbus Ground System (CGS) Software Architectural Design Document, Issue 4/B, 30.10.1998

2.6 Interface Definitions

CGS-RIBRE-ICD-0001 System to CGS ICD, Issue 1/-, 31.01.2002

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_V6_3_0
- TES
- TEV
- TSCV
- TSS
- CGS_API

3.3 Release Media & their Contents

The VTC SW System is delivered on a as being identified in Table 1.

Data Carrier ID	*Title / Contents*	*Receiver*
CGS-RIBRE-DC-0163	*CGS_6.3.0_B3_LINUX (Master)*	*Dcc*
CGS-RIBRE-DC-0164	*CGS_6.3.0_B3_LINUX (Backup)*	*CGS CM*
CGS-RIBRE-DC-0166	*CGS_6.3.0_B3_LINUX optional (Master)*	*Dcc*
CGS-RIBRE-DC-0167	*CGS_6.3.0_B3_LINUX optional (Backup)*	*CGS CM*
CGS-RIBRE-DC-0169	*CGS_6.3.0_B3_LINUX Test SW (Master)*	*Dcc*
CGS-RIBRE-DC-0170	*CGS_6.3.0_B3_LINUX Test SW (Backup)*	*CGS CM*

Table 1 : Identification of Data Carriers

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 2.1].

This version is internal identified by PDB checkpoint CGS_6.3.0_B3_LINUX**.**

4 SW Release Status

4.1 Release Status

The release status as defined by the SRO [AD 2.1.1.] is:

ENGINEERING RELEASE

4.2 Commercial Baseline

- ✓ Suse Linux Enterprise Server 8 / ServicePack3
- ✓ Oracle 9.2.0.5
- ✓ Gipsy 4.2.2 based on glibc 2.2
  - with patch for call pr-3437
  - with libdvt11.0.so for Gipsy 4.2.2 / Linux of 14.06.2005
- ✓ Dataviews 9.9
- ✓ CGS API with gnat 5.0.3a
- ✓ CIS CORBA Server with OrbRiver for Ada (CORBA 2.5, GIOP 1.2)

This CGS SW release shall be executed on Intel PC with SUSE Linux Enterprise Server 8 (SLES8) based environments.

4.3 Compatibility Statement

The software is based on CGS 6.2.6 / CGS 6.2.6.1.

The SAS build with the CGS API (CGS version 6.2.6 / 6.2.6.1) are compatible to CGS version 6.3.0, but due to some changes inside the underlying network software (NWSW) we recommend to recompile the SAS sources with the new CGS API.

The Corba clients build with the CGS IDL (CGS version 6.2.6 / 6.2.6.1) are compatible to CGS version 6.3.0.

4.4 New or Updated Components

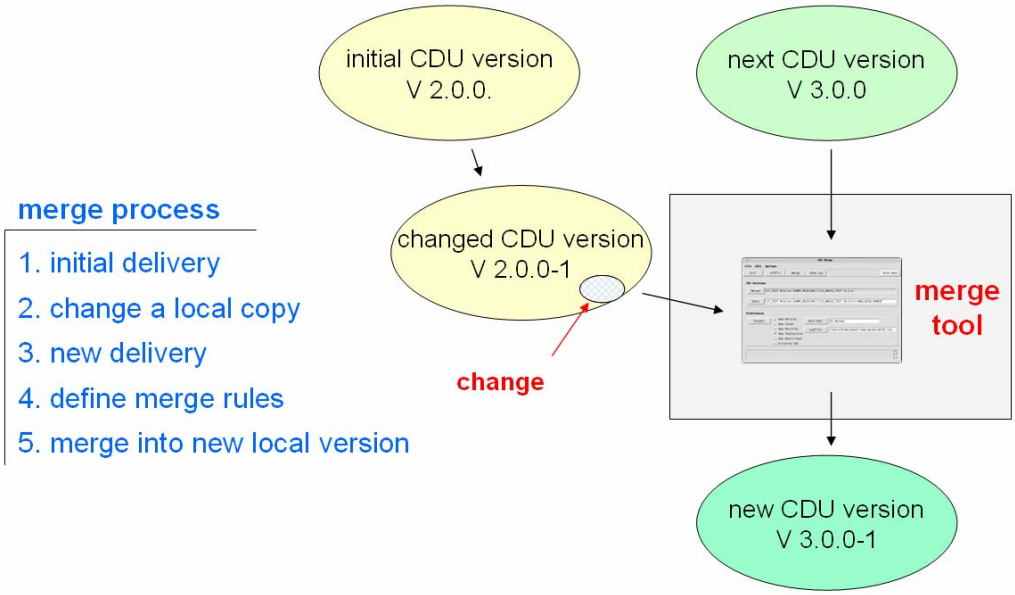
All software components are updated.

4.5 New features in CGS_6.3.0

What's new in CGS_6.3.0 (in different to CGS 6.2.6 / 6.2.6.1)?

1. CDU MERGE TOOL

- The CDU merge tool has been built to combine the data of two versions of the same CDU. It compares the information of both of the versions and preserves the differences according to the rules which have been defined. Finally it provides a CDU version containing a combination of data of both of the initial CDU versions.



The example in figure below shows the principle of the merge process:

- ✓ First you receive a delivery of a CDU version (V 2.0.0). For any reason you want to change some of its data.
- ✓ What you do is to copy the received (and frozen) CDU version to get your own locally owned version, let's say a test version of that CDU (V 2.0.0-1). You make your changes in the context of this copy and use it for whatever you like.
- ✓ What happens next is that you receive another version of the initial CDU (V 3.0.0). Perhaps this version does not include the data you've written into your local V 2.0.0-1 version, perhaps it contains parts of that data or all of that data is now included in the new CDU version. Your aim is to preserve the changes you have made locally in combination with the new CDU version you received.
- ✓ What you do now is to define rules which control the process of preserving your changes. This could be something like

  "Preserve all my changes regardless what the new delivery contains"

  or

  "Preserve only those changes which won't overwrite any data in the new delivery"

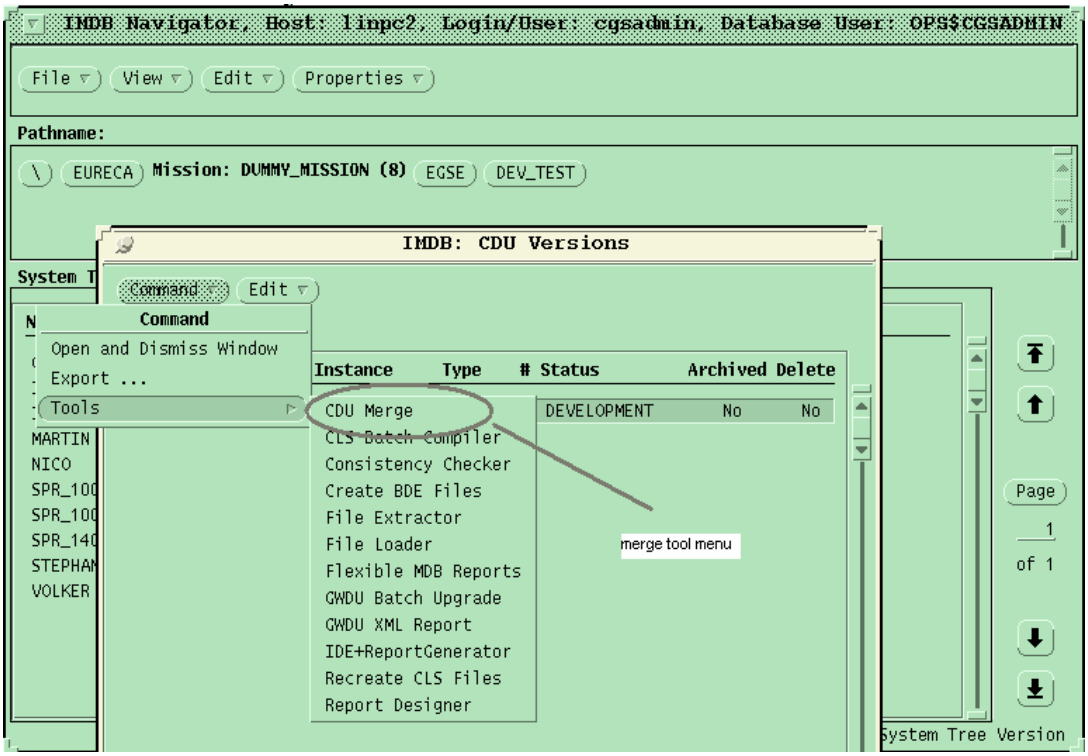
or

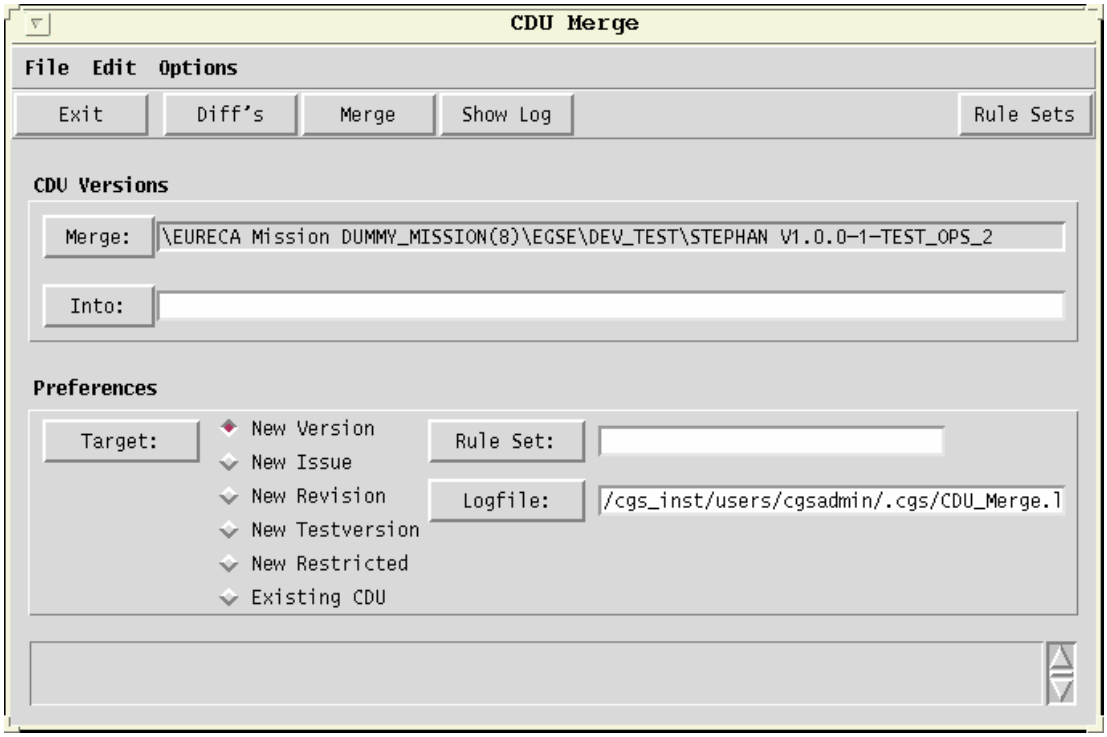
"Preserve changes in end item A and throw away those in end item B".

The CDU merge tool enables you to create sets of these rules for different cases.

At least you run the CDU merge tool: It creates a new locally owned CDU version (in figure below the test version V 3.0.0-1) as a copy of the delivered V 3.0.0 and adds your changes to that version according to the rules you've defined in the previous step.

- The merge tool can be called via I_MDB CDU mask:





For details verify the description in document CDU_Merge_Users_Manual.pdf in $CGS_HOME/doc/manuals (can be installed from optional CD).

2. CGS CONFIGURATION

- New configuration parameter are:

  ✓ Cis.Debug.EnableCORBAControl

  Setting to TRUE enables external control of debug output for a running CIS process by a client for the 'Internal' CORBA interface. Since there is no access control for this interface, and debug output has impact on CIS performance and disk space consumption, this is a potential security risk and therefore disabled as default.

  Range: true/false
  Recommended value: false

  ✓ TES.KERNEL.DATA_PROCESSOR.ADU.USE_LIMIT_SET_NUMBER_AS_CONDITION

  (A) Allow or inhibit the usage of the MDB - defined Limit Set Number in enditem condition description as additional condition for the Action Type DISABLE_MONITORING only.

  For all other conditon actions this parameter has no effect!

  If this value is set to true, the condition is evaluated as follow:

  condition false => do nothing
  condition true =>

  condition Action Type = DISABLE_MONITORING =>

```
                ACTION ITEM REFERENCE = measurement, variable, derived:

                  if condition Limit Set Number = current limit set
                  OR condition Limit Set Number = 0 => disable_monitoring

                ACTION ITEM REFERENCE = monitoring list, virtual pathname:

                  if condition Limit Set Number = current limit set
                                        (for at least one single enditem)
                  OR condition Limit Set Number = 0 => disable_monitoring

                  else                                => do nothing (*)

              condition Action Type <> DISABLE_MONITORING => perform action

          (*) In this case, the condition is not marked as triggered, because
              the limit set check is part of the condition.

              Remember: The condition action is performed once only as long as
                        the condition result is unchanged!

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

- Changed configuration parameter are:

  ✓ Online_Test_Control.Log.UserName
  ✓ Cis.Log.UserName

  Defines the user name of the addressed message window, default is all users ("" is same user as Online Test Control, "*" is all users).

  Recommended value: *

  ✓ Online_Test_Control.Resources.Tasking.T_Answer_Task

  Defines the stacksize of T_Anwser_Task, changed from 10000 to 50000 Byte.

  ✓ DBS.Command_History.DBS_UDP_BROADCAST_ENABLED

  Enables subscription messages from the command history to be sent to the CIS clients via UDP broadcast resp. multicast. Value False will force the command history to send the messages one by one via TCP/IP to each connected client.
  Note: message distribution method UDP broadcast or multicast may be switched using the configuration parameter NWSW.Daemon_Use_Multicast. See description of that parameter for details.

  Range: true/false
  Recommended value: true

  ✓ The default location for CGS icons has been changed.

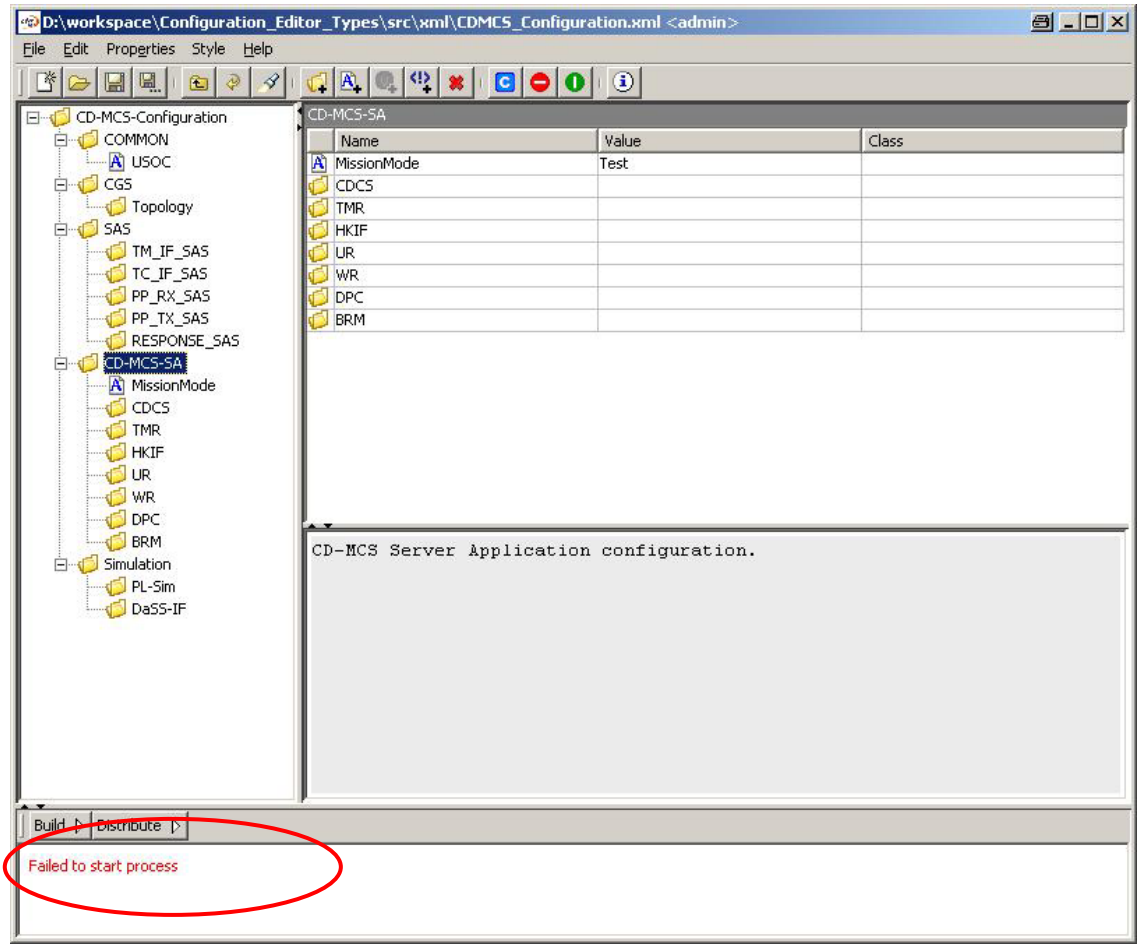
  That why the default path for icons has been changed to ${CGS_HOME}/etc/icons in the corresponding configuration parameter.

3. CGS CONFIGURATION EDITOR

- Configuration editor launch bar extension

  In addition to the normal functionality of the Configuration Editor it is now possible to add a configurable launch bar to the editor window with buttons that allow to start processes in the background of the Configuration Editor. These processes may use or further process the XML file created for the just edited configuration. The buttons have to be described in a special configuration file which itself can be edited with the Configuration Editor (see below).

  In order to use the new functionality the Configuration Editor has to be started with the option –launch_bar <filename>, where <filename> is an XML file containing a launch bar definition. The user defined buttons will be shown in a tool bar at the bottom of Configuration Editor window. Below this tool bar the program creates a text area to show the standard output and error messages of the processes that are implemented by the buttons, see picture1.



  Picture: launch bar with a text area for the output of a process

  ✓ Button Symbols

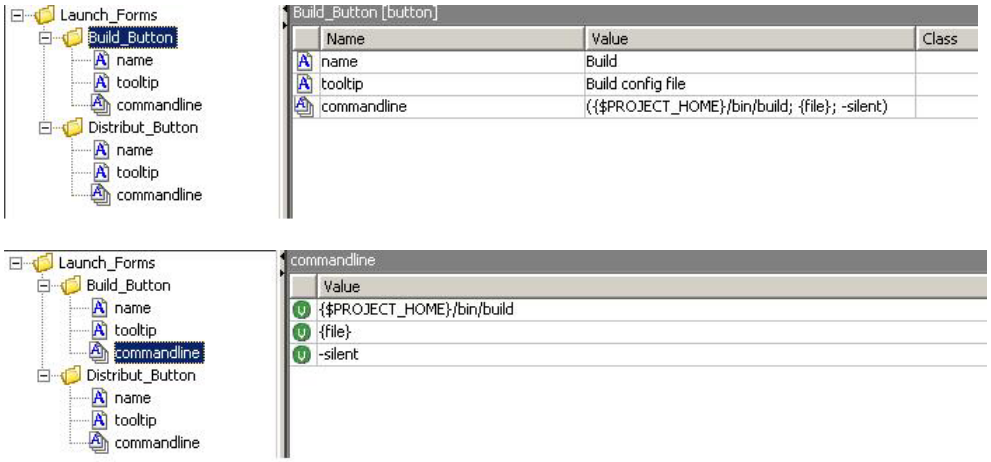
  Small icons on the buttons inform the user about the status of the processes:

	The process can be started and was not started before.
	The process is now running.
	The process has terminated with an error status and can be started again.

▶	The process has terminated with a success status and can be started again.

✓ Launch File Structure

The XML file defining the launch bar can be created with the Configuration Editor. It just must have the structure shown in next picture.



Picture: launch file structure

Each button has to be defined as a group witch the class “button” and three attributes.

- The attribute “name”, defines the name (and the label) of this button
- The attribute “tooltip” defines the tooltip text of this button
- The attribute “commandline” defines the command line to be used to start the process. This attribute is a list of values: The first value in the list is the name of the executable, and each of the following values represents one parameter or option of the command line. The values may contain placeholders

{file}	Stands for the name of the XML file currently edited.
{$VARIABLE}	Stands for the value of an environment variable.

4. CGS SYSTEM LIBRARY CHANGES

- Remove ground_library procedure

  ✓ load_ucl

- Add in ground_values specification following procedures, which are not yet implemented in TES. They will return with UCL_RETURN := 103 (constant NOT_YET_IMPLEMENTED).

  ✓ procedure GET_CALIBRATED_BYTE_STREAM_FOR_UNSIGNED
  ✓ procedure GET_CALIBRATED_BYTE_STREAM_FOR_INTEGER
  ✓ procedure GET_CALIBRATED_INTEGER_FOR_REAL
  ✓ procedure GET_CALIBRATED_INTEGER_FOR_LONG_REAL
  ✓ procedure GET_DECALIBRATED_UNSIGNED_VALUE_FOR_BYTE_STREAM
  ✓ procedure GET_DECALIBRATED_INTEGER_VALUE_FOR_BYTE_STREAM

- ✓ procedure GET_CALIBRATED_UNSIGNED_FOR_INTEGER
- ✓ procedure GET_DECALIBRATED_INTEGER_VALUE_FOR_UNSIGNED
- ✓ procedure GET_DECALIBRATED_REAL_VALUE_FOR_INTEGER
- ✓ procedure GET_DECALIBRATED_LONG_REAL_VALUE_FOR_INTEGER
- ✓ procedure GET_CALIBRATED_UNSIGNED_FOR_REAL
- ✓ procedure GET_CALIBRATED_UNSIGNED_FOR_LONG_REAL
- ✓ procedure GET_DECALIBRATED_REAL_VALUE_FOR_UNSIGNED
- ✓ procedure GET_DECALIBRATED_LONG_REAL_VALUE_FOR_UNSIGNED
- ✓ procedure GET_CALIBRATED_REAL_FOR_LONG_REAL
- ✓ procedure GET_DECALIBRATED_LONG_REAL_VALUE_FOR_REAL
- ✓ procedure GET_CALIBRATED_LONG_REAL_FOR_REAL
- ✓ procedure GET_DECALIBRATED_REAL_VALUE_FOR_LONG_REAL

- ✓ guarded procedure SET_BYTE_STREAM_PAIR_FOR_UNSIGNED
- ✓ guarded procedure SET_BYTE_STREAM_PAIR_FOR_INTEGER
- ✓ guarded procedure SET_NUMBER_OF_BYTE_STREAM_PAIRS

- ✓ procedure GET_BYTE_STREAM_PAIR_FOR_UNSIGNED
- ✓ procedure GET_BYTE_STREAM_PAIR_FOR_INTEGER
- ✓ function GET_NUMBER_OF_BYTE_STREAM_PAIRS

- Evaluation of environment variables in procedures of BINARY_FILE_IO and TEXT_FILE_IO libraries:

  - ✓ CREATE
  - ✓ OPEN
  - ✓ APPEND

- Evaluation of environment variables in procedures of SYSTEM library:

  - ✓ EXISTS
  - ✓ DELETE
  - ✓ CREATE_DIRECTORY

5. COUNT OF SAS PER TESTNODE INCREASED

- CGS is able to deal with 40 SAS per testnode now (20 more as in previous CGS version). Additional HK values were introduced for the new 20 SAS (HK range 800 .. 899).

6. EXTENSIONS FOR USE OF ORACLE RAC (REAL APPLICATION CLUSTER)

- Client applications, which are connected to Oracle, are able now to handle a failover situation via Oracle RAC. The reconnection of a client is logged in message handler.

7. HCI NEW COMMAND LINE PARAMETER

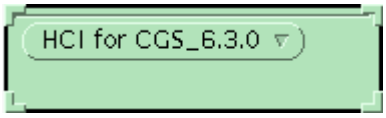
- Parameter -titel
- parameter -screen_setup

  Online Control has now a command line argument to load a screen setup.

  ```
  Usage: $CGS_HOME/gsaf/hci/bin/common/start_hci [options]
         Options:
               -title "title"
               -screen_setup "screen_setup_file"
  ```


Example for shell:

```
> $CGS_HOME /gsaf/hci/bin/common/start_hci -title "HCI for CGS_6.3.0"
```



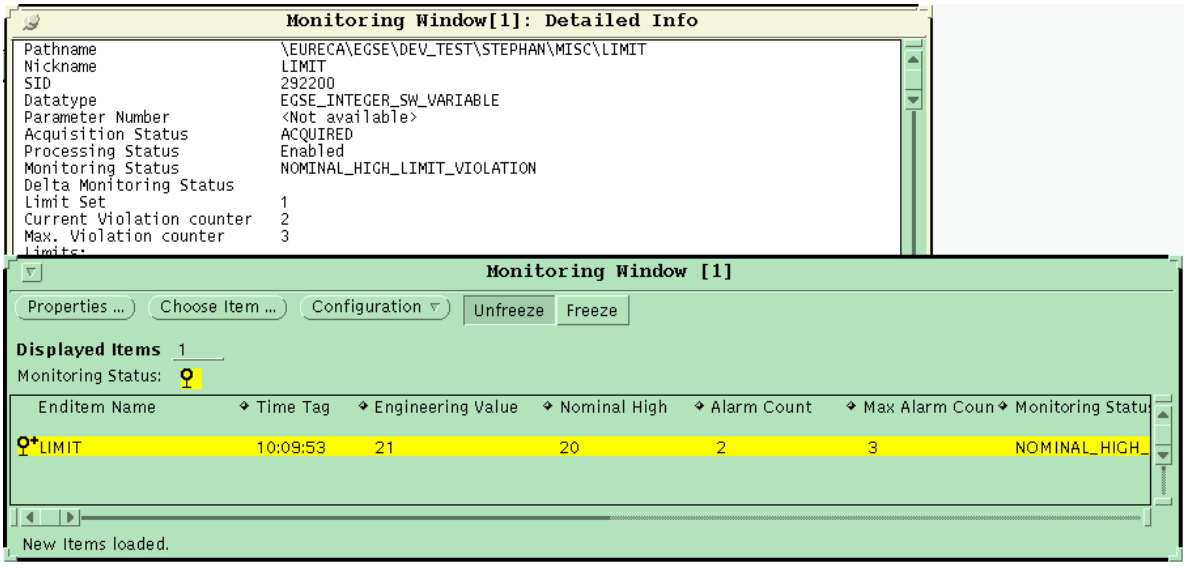
Example task for CGS Task Selector:

```
"RT_Displays" $CGS_HOME/gsaf/hci/bin/common/start_hci -screen_setup
$HOME/25_RT_Displays
```

8. HCI MONITORING WINDOW / OOL WINDOW EXTENSION

- The current alarm count is displayed now in HCI monitoring and out of limit display. In the detailed information window this value is displayed as well.

  The current alarm count denotes the count of nominal limit violations. This means how often the engineering value was out of nominal limit (an out of nominal limit situation is finished by an 'in limit' or an 'out of danger limit' state). If the current alarm count is equal to the max alarm count, an exception will be raised.



- In the TRDB Event Log only (not in message handler) following additional messages will be written for an exception:

```
-------------------------------------------------------------------------------------------------
  20.03.2006 10:11:42.609  20.03.2006 10:11:42.609  TES_01              MON    EXC
-------------------------------------------------------------------------------------------------

  Short Text : Nominal high limit monitoring exception (\.LIMIT)

  Long Text  : Nominal high limit monitoring exception  at 10:11:42.609 Eng val: 21 SW Variable:
               \EURECA\EGSE\DEV_TEST\STEPHAN\MISC\LIMIT

-------------------------------------------------------------------------------------------------
  20.03.2006 10:11:42.610  20.03.2006 10:11:42.610  TES_01              MON    EXC
-------------------------------------------------------------------------------------------------

  Short Text : Nominal Monitoring Exception (\.LIMIT)
```

```
Long Text  : The current alarm counter is 3, Max_Alarm_Counter is 3
```

9. HCI HLCL-INTERPRETER EXTENSION

- Reintroduce LOAD_UCL command

  By request of many users we reintroduce the load_ucl command. For technical reasons it is impossible to present it as system library procedure. Now it is a predefined HCI command for the HLCL interpreter with following syntax:

```
LOAD_UCL

Function: Load UCL item on an EGSE node.

Parameters:
    ITEM
         Mode:     Mandatory
         Type:     UCL_ITEM_NAME
     NODE
         Mode:     Optional
         Type:     EGSE_NODE
         Default:  \\
         Meaning:  Node on which the item will be loaded.
     STATUS
         Mode:      Optional
         Type:     INTEGER
         Meaning:  Return status (UCL_RETURN, 1 is success).
```

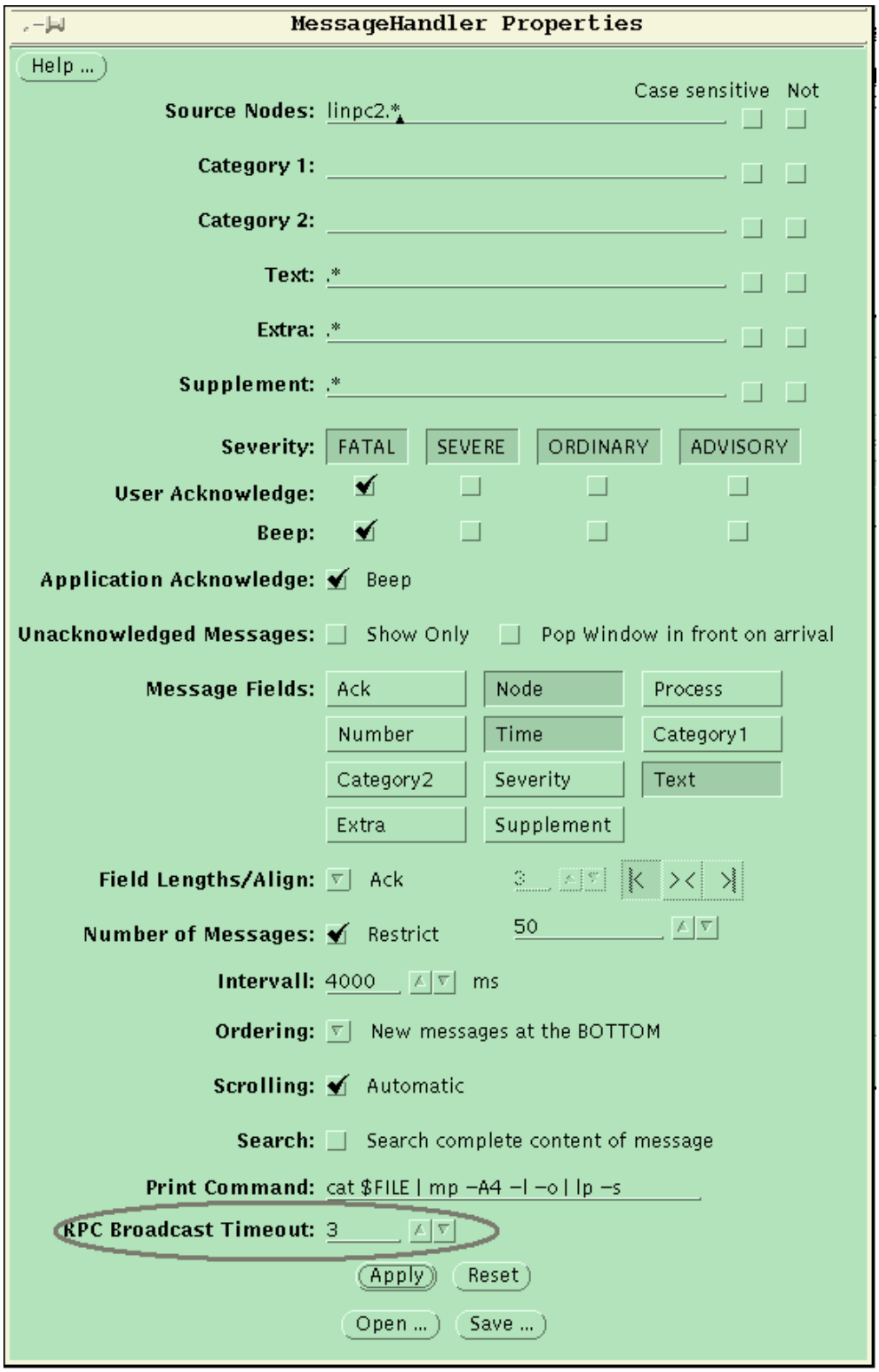
- Introduce START_UCL_DEBUGGER command

  START_UCL_DEBUGGER is a predefined HCI command for the HLCL interpreter with following syntax:

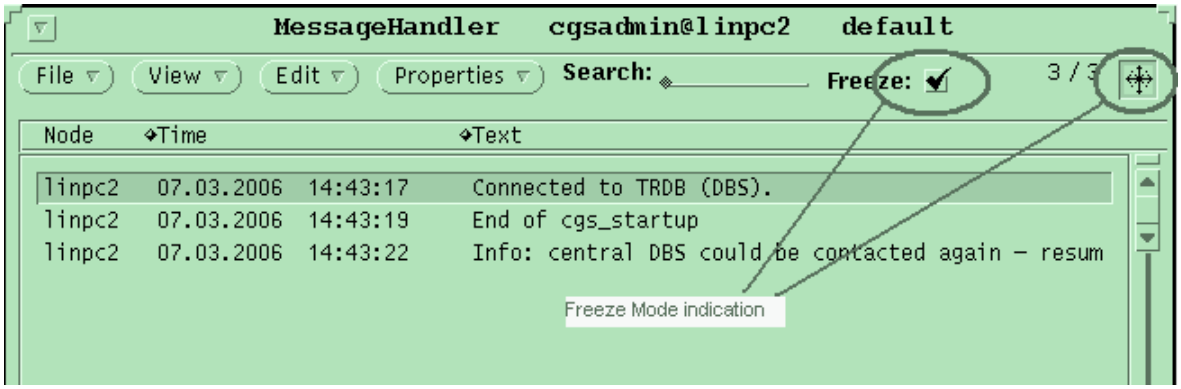
```
START_UCL_DEBUGGER

Function:  Start UCL Debugger.

Parameters:
    ITEM
         Mode:     Mandatory
         Type:     UCL_AUTOMATED_PROCEDURE
         Meaning:  UCL automated procedure loaded into debugger.
     NODE
         Mode:     Optional
         Type:     EGSE_NODE
         Default:  \\
         Meaning:  Node the debugger will connect to.
     STATUS
         Mode:     Optional
         Type:     INTEGER
         Meaning:  Return status (POSIX error codes, 1 is success).
```

10. MODIFICATIONS IN MESSAGE WINDOW

- The timeout for RPC broadcast call to detect the available message server in subnet is now configurable inside the message handler properties for LINUX distribution.



- The Freeze Mode indication is shown in message handler now obvious.

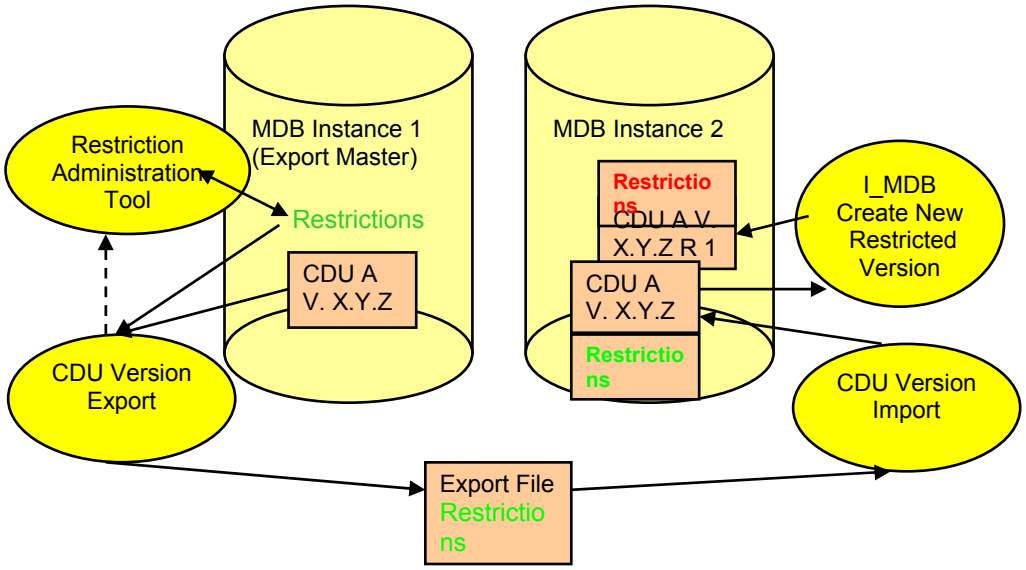


11. RECONNECT EXTENSIONS TO ORACLE

- Client applications, using the internal Oracle interface P_MDB (like vicos_hci, vicos_cis, …) which are connected to Oracle are able now to reconnect after restart of oracle processes automatically. The reconnection of a client is logged in message handler.

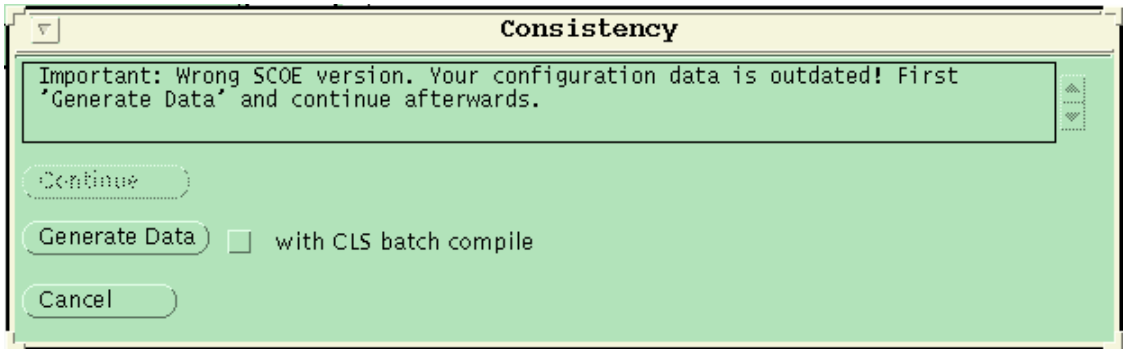
12. RESTRICTED CDU VERSIONS

- With the previous CGS, users are not allowed to create local versions of foreign-owned CDUs. They may create Test Versions only which has the undesirable effect of providing unrestricted access to the CDU contents.
- To remedy this shortcoming, the Restricted CDU Version concept has been introduced.
- Like a Test Version, a Restricted CDU Version will be locally-owned. However the user's access will be limited to specific item type - aggregate combinations.
- Default access restrictions (i.e. list of modifiable type aggregate combinations) will be defined by the installation of the MDB (or by $CGS_HOME/patches/CGS_6.3.0/patch_mdb.sh). The restrictions will apply to all designated foreign MDB instances, i.e. instances not owning the CDU's parent System Tree node.
- The default restrictions are changeable by the Restrictions Administration Tool. This tool can invoke in I_MDB -> File -> CDU Restrictions Administration or by the CCU/CDU version export.
- The CDU version export attaches the instance restrictions on the CDU version and the CCU version on each included CDU version.
- The restrictions which are attached on a CDU version are copied by each copy process of this CDU version.
- The attached restrictions are only active in Restricted CDU Versions.
- For detailed information refer MDA Reference Manual, Issue 01/C 27.03.2006



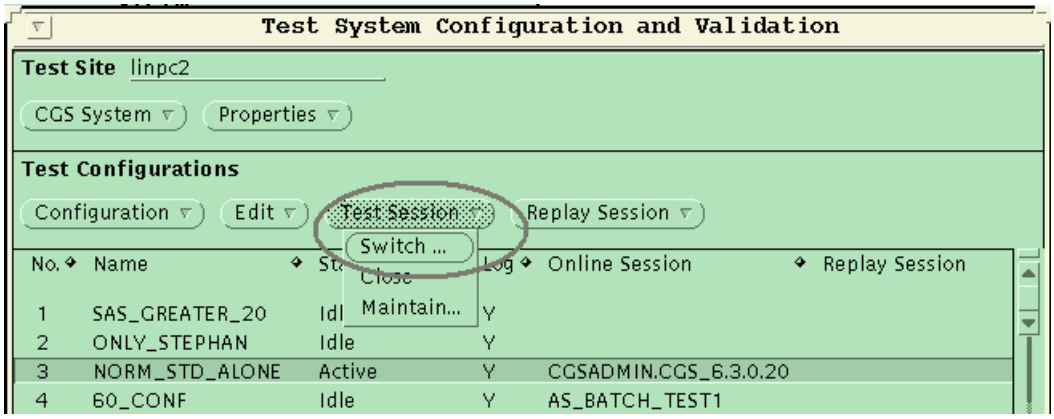
13. SCOE DATA DESCRIPTION HAS BEEN CHANGED

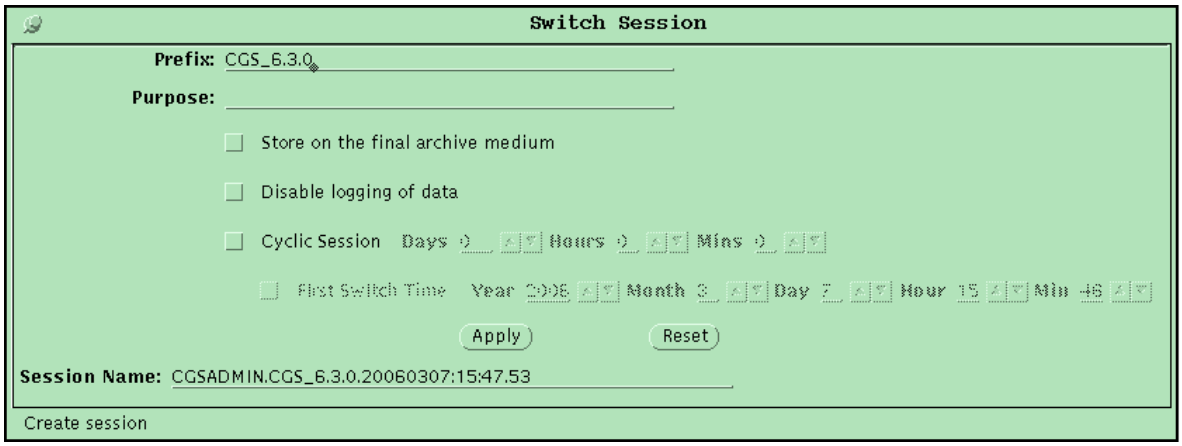
- The data structure description for the SCOE files has been changed, so that all SCOE data needs to be regenerated with the new generate scoe file process in this version once. It is not possible to start a configuration via TSCV without regeneration of SCOE data (update to the new data structure). Following message window appears in TSCV:



14. SWITCH TRDB SESSION NAME

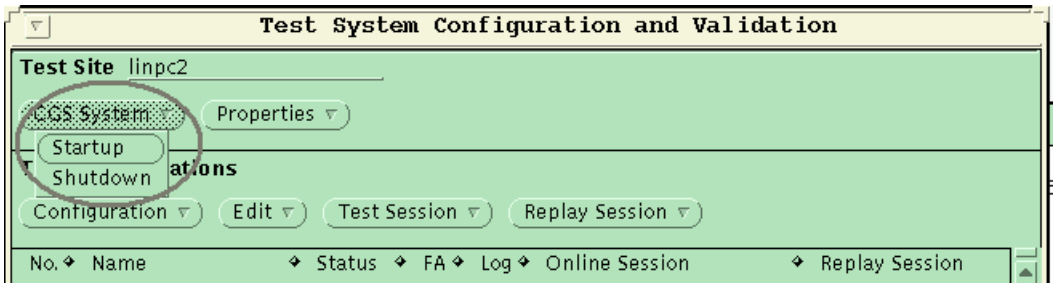
- Via TSCV it is now possible to switch the name of an execution session in TRDB. The old session will be closed and the new one will be open with the new name at once.





15. TSCV SMALL INTERFACE CHANGE

- The System menu has been renamed to CGS System, the submenu Launch Service is renamed to Startup. The startup and shutdown capability is the same you know from the CGS task selector.



16. UCL / HLCL EXTENSION

- New I-Code definition

  The I-Code definition has been changed, so that all UCL sources need to recompile. The UCL compiler detects automatically the version mismatch and will compile all sources.

- Non SI units

UCL and HLCL now handle with user defined non SI units. For a description see the UCL Reference Manual, chapter 4.8.3.

- UCL and HLCL now handle with units for real types as well as for integer types. See the description in the UCL Reference Manual, chapter 4.8.11.

17. USS INTEGRATION IN CGS

- In this version it is possible to use CGS together wit USS. Different HLCL or system library commands like assign_picture, display_picture or remove_picture are able to deal with the MDB enditem type USS_DISPLAY. The HCI screen setup is able to store and restore window definitions, which are using enditems of type GWDU_SYNOPTIC_DISPLAY and USS_DISPLAY together. For the data conversion from GWDU_SYNOPTIC_DISPLAY to USS_DISPLAY please read the USS documentation.

  ✓ Integration with Online Control

  create USS project directory for MDB export
  shell: cd $CGS_HOME/etc/project
  shell: mkdir -p uss/mdb
  shell: chmod g+w uss/mdb

  create a link to uss-executor.sh
  shell: mkdir -p uss/bin
  shell: cd uss/bin
  shell: ln -s <USS_Installation_Dir>/bin/uss-executor.sh uss-executor.sh

  ✓ Integration with MDA

  shell: cd $CGS_HOME/etc/project
  create an executable script called "pre_generate_scoe_files":

```
#!/bin/sh

#
#  source common CGS functions
#

if [ -f $CGS_HOME/gsaf/cgsi/lib/shell/cgs_lib.sh ]; then
  . $CGS_HOME/gsaf/cgsi/lib/shell/cgs_lib.sh USS
fi

USS_EXPORTER=<USS_Installation_Dir>/bin/uss-mdb-display-exporter.sh

if [ -x ${USS_EXPORTER} ] ;
then
 umask 002
 ${USS_EXPORTER} "$@"
 STATUS=$?
 if [ "${STATUS}" != "0" ];
 then
    Cgs_Lib_SendMessage "Bad execution status of USS MDB Display Exporter" "Exit status:
${STATUS}"
 fi
else
 Cgs_Lib_SendMessage "Cant execute USS MDB Display Exporter" "Path: ${USS_EXPORTER}"
fi
```

  shell: chmod +x pre_generate_scoe_files

  Note: a template of this script exists below $CGS_HOME/patches/CGS_6.3.0

or, if already existing edit it and add above call to uss-mdb-display-exporter.sh bypassing all command line arguments.
If an existing script isn't executed by "sh", change call suitable for selected scripting language.

When calling "generate SCOE files", the USS MDB Display Exporter will come up. USS Displays will be exported to $CGS_HOME/etc/project/uss/mdb.

✓ Integration with Task Selector

To add the USS Executor to the Task Selector, edit $HOME/.task_list and add line:

```
"USS Executor"     <USS_Installation_Dir>/bin/uss-executor.sh
```

18. ADDITIONAL TOOL IN CGS OPTIONAL - CALL

- There is a new tool ("call") that allows to add a simple graphical user interface to command line based programs, see a desription in CGS-RIBRE-MA-0003 (file call.pdf). It is installed as part of the optional CGSI software and is invoked with the command

  $CGSI_HOME/bin/common/call

  This tool may also be used within the I_MDB Flexible Tool Invocation. The scripts
  $CGSI_HOME/util/common/install_call_tool_invocation
  $CGSI_HOME/util/common/deinstall_call_tool_invocation

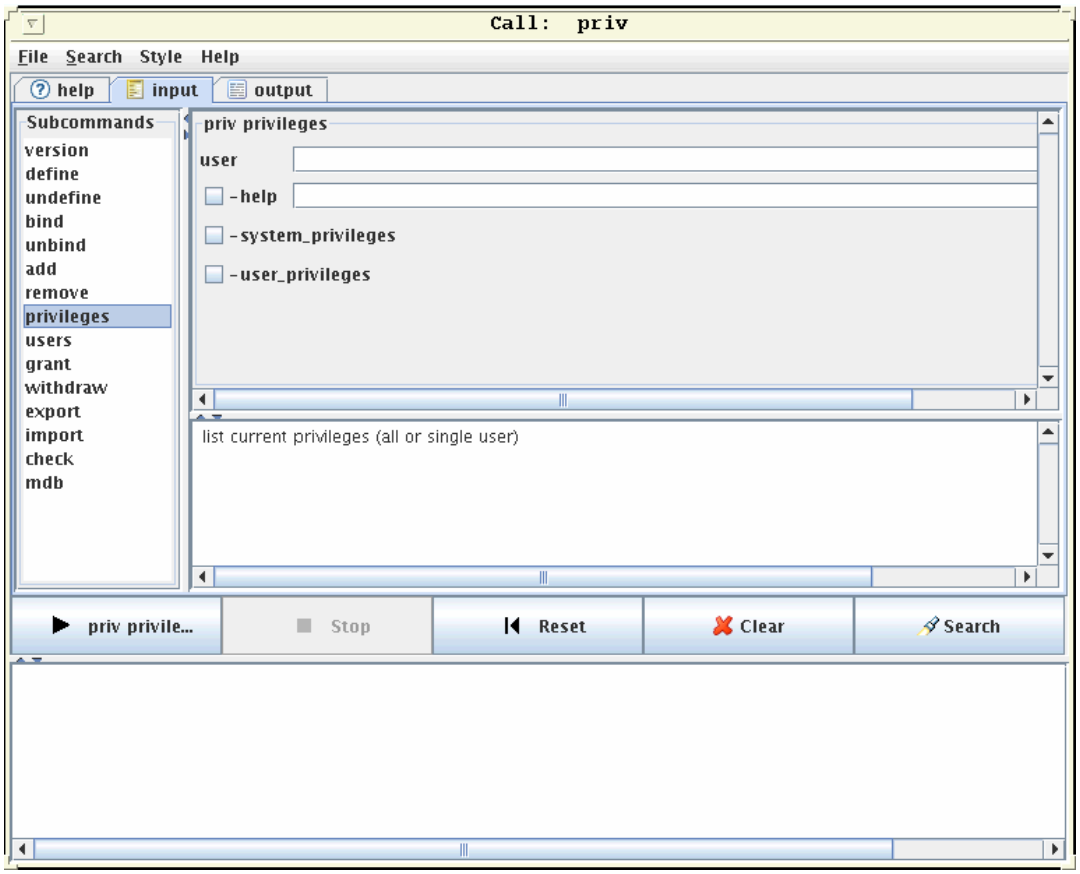
  install or deinstall, resp., the following entries in the Tools submenu for appropriate item types:

```
   cls: Check...          calls the 'check' tool
   cls: Decode...         calls the 'decode' tool
   cls: Dependencies...   calls the 'dependencies' tool
   cls: Format...         calls the 'format tool' (beware: this reformats your
source code)

   mdb: List...           calls 'mdb list'
   mdb: Retrieve...       calls 'mdb retrieve'
   mdb: Store...          calls 'mdb store'
```

  These entries call the respective tools with a simple graphical user interface that allows to select different options before actually starting the target tool. The optional CLS tools must be installed for this purpose.

  For a description of the 'mdb' tool see mdb.pdf.

  Example: call priv



4.6 SW Problem Status

4.6.1 SPR Status and Impact Analysis

For this release 98 SPR's are solved.

ID▲	TITLE
SPR-6373	test session name for HK data
SPR-14468	Limit set initially 0 in monitoring window for certain items
SPR-14736	Error message when starting CGS with TSCV
SPR-15286	TSCV: no update of Log display in main panel
SPR-15626	TEV: Packets Navigator Confusion
SPR-15897	ORACLE error during Command History XML report
SPR-15918	graph output with overloaded legends
SPR-15923	In EVALUATION SESSION stored files not loadable in TEV tools
SPR-16029	Incomplete information in cmd history
SPR-16164	Message Handler: File->Connect performance problem
SPR-16195	CIS resets HLCL interpreter after TES reconnect
SPR-16329	Missing (FLAP) messages in message handler
SPR-16333	get_full_enditem_monitor_status does not work from HLCL
SPR-16480	Newly created derived value not initialized
SPR-16489	Get_Calibrated_<type>_for_<type> not working for stimuli
SPR-16575	HCI crash
SPR-16581	CONSTRAINT_ERROR for detailed info of 'discarded' item
SPR-16700	HCI crash after Explorer quit
SPR-16719	HCI crashes with STORAGE_ERROR
SPR-16720	HCI crashes with CONSTRAINT_ERROR
SPR-16800	TEV: 'Too many sessions' error from 'Save Dump in File'
SPR-16818	Sample count not correct in TEV Merge Tool
SPR-16901	Duplication of CIS messages in mesage handler
SPR-100072	Session status after mcs client failover (workstation reboot)
SPR-100075	Monitoring window shows incorrect limit sets
SPR-100125	TEV: Misbehaviour in Graph Tool
SPR-100228	Process Creation Server: Startup Scripts for Child Processes
SPR-100270	Clean option of makefiles for BDE does not work correctly
SPR-100309	Restriction of changes for aggregates from MDB enditems not possible
SPR-100316	Start USS executor from online test control and task selector
SPR-100317	Open and close a display from UCL/HLCL
SPR-100318	Missing packet ID and APID informations on telemetry deliveries by CIS
SPR-100322	CDU merge tool missing
SPR-100324	missing possibility to define units for integer types
SPR-100408	Manual Stack: Status AP_NOT_STOPPED when sending 8 cmds/sec
SPR-100423	CIS not shut down by TSCV when in status -Available-
SPR-100433	Additional TEV_Batch Features for Test Automatisation
SPR-100434	Events Lists in "ADT" Format in wrong Order
SPR-100457	ExcelMDB fails without meaningful message when trying to read more than 65532 records.

SPR-100460 CGS Tools: confirm dialog can be hidden by application
SPR-100461 CGS Configurator / Installer: new CIS privileges not covered
SPR-100468 Event-Distributor-Daemon: identification name field not wide enough
SPR-100476 Stack Underflow in UCL APs
SPR-100477 For XMLSCOE response packets are checked that are not part of the test configuration
SPR-100483 UCL parameter of type WORD/LONG_WORD not stored correct in MDB
SPR-100490 TSCV does't check the existence of scoe files
SPR-100499 CGS Reconnections after DB Server failure
SPR-100502 CGS Reconnections after oracle failure
SPR-100519 Missing components for GWDU to USS display conversion
SPR-100520 Eng Units of PD Parameters not supported by CGS
SPR-100521 CGS Priv Tool: add for existing user withdraws Oracle CM privilege
SPR-100526 Update Problem of MCS Monitoring Window
SPR-100531 Screen Setup maintenance does not recover the name of a Monitor Window
SPR-100535 Failed to update the TSCV lock file.
SPR-100536 TSCV: Incomplete Message Text
SPR-100537 CLS Editor start is too slow
SPR-100539 CGS SYSTEM/TEXT_FILE_IO: Use of Environment Variables
SPR-100543 COMMUNICATION_ERROR after TES_API.DISCONNECT
SPR-100545 Graph Tool can not be opened
SPR-100555 Internal error in TSCV (DBS_01 in node list)
SPR-100556 Coded default value for HLCL.NotifyLevelSwitch differs from IDL
SPR-100573 P_MDB (MDA) reconnect to RAC
SPR-100577 CLS batch compiler don't check the compiler version
SPR-100582 CLS compiler problem: library procedure parameter type real with default value
SPR-100585 UCL Browser: Load UCL Procedure did not work
SPR-100587 CGS CIS: HLCL Interpreter hangup when login too early
SPR-100588 Missing Load_UCL command
SPR-100591 Data entry via DDED disabled for multi-record aggregates
SPR-100592 Pathname-to-SID Conversion doesn't work
SPR-100593 Float Eng. Range is wrongly reported as invalid
SPR-100594 Consistency Check No. 17 fails to execute
SPR-100597 RDD: OPEN_MDB callbacks not implemented
SPR-100600 Time Frame Selection from User Events based on SMT
SPR-100601 Time Frame Selection based on SMT for Packets Navigator
SPR-100603 Klick on "Restrictions" in I_MDB CDU Version Properties window fails in special cases
SPR-100607 Error in CMD_HISTORY_DB_ACCESS.CREATE_CMD_SRC_CODE
SPR-100608 CLS Editor raises MDB_ERROR for newly EGSE_PREDEFINED_TCs
SPR-100617 bde_store removes existing data in case of bde_load data errors
SPR-100620 Undocumented extension of CIS server CORBA interface
SPR-100621 TM data requests not discarded by CIS during configuration restart
SPR-100622 CGS_6.3.0: CLS Compiler check prevents recompilation of ground items with OB refs
SPR-100623 CAL_ERROR expected in TP while OK is returned
SPR-100625 UCL user_library code not stored in file system
SPR-100626 uninitialized variable inside p_sw_cmd_manager

SPR-100627 Unable to execute HLCL procedure

SPR-100628 Client_Watchdog mechanism erroneous (CONSTRAINT_ERROR)

SPR-100635 HLCL: Deallocation problem with variable declarations

SPR-100636 TES raises CONTRAINT_ERROR

SPR-100638 Insufficient CIS privileges for cgsadmin in TP61

SPR-100639 Constraint_Error in adt_gdu.adb

SPR-100641 to late cgs startup on clients

SPR-100642 DBS don't store user file to TRDB

SPR-100647 Synoptic Display hangs "Executing" after interactive parameter request for an AP started via SD butt

SPR-100649 icon color for message hander freeze mode changed

SPR-100652 Flexible MDB Reports with PDF output fails

SPR-100655 Wrong Aggregate Patch for USS_DISPLAY in Temp MDB

SPR-100657 HLCL: Subtraction of duration from time results in error

SPR-100658 Exception during screen setup load

4.6.2 Temporary fixed Problems

4.6.3 Further Open Problems

4.6.4 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.
- Not all interfaces for the new CGS IDL 2.0 are implemented in CGS:

```
-------------------------------------
- partially supported by CGS:
-------------------------------------
(supported) -# Added source, mode and base to timetags of telemetry updates
- only mode (Replay for source TN in replay mode, otherwise Normal) for TM data
  acquisitionTime supported in CGS V6.3.0; hardcoded to Normal for OOL data.
- hardcoded: source:System, Base:Unknown_Time_Base for any TM data.

-------------------------------------
- not (yet) supported by CGS:
-------------------------------------
General: unsupported 'oneway void' calls are stubs, just generating a debug
message '<Procedure_Name> -- to be implemented --' with debug output enabled.

TODO        -# Added calibration description to telemetry properties
 *          -# Added distinguishing of statecode translations and other
 *             int-to-string calibrations (when using value, they are to be
 *             handled differently)
- not yet supported by CGS: no calibration updates are sent by CIS

TODO        -# Created telemetry report delivery schema
- Telemetry data reports not yet supported:
- Telemetry.getTelemetryReport raises ServiceNotAvailable.
- Telemetry.cancelTelemetryReport is empty.
- TelemetryClient.telemetryReportDelivery is never called by CIS.

TODO        -# Added interfaces TelemetryPacket/TelemetryPacketClient (moved
 *             existing telemetry packet dealing methods from interfaces
 *             Telemetry/TelemetryClient there; moved item identification lists
 *             related stuff from Telemetry to TelemetryBase to be reusable by
 *             TelemetryPacket(Client), too)
- TelemetryPacket services not yet supported:
- due to major required rework, previously supported subscribePacket function
  is not supported any more (until final implementation).
- session.(un)subscribeTelemetryPacket will create/destroy stub objects:
- TelemetryPacket.subscribe... raise RequestFailed.
- TelemetryPacket.unsubscribe... are empty.
- TelemetryPacketClient callbacks are never called by CIS.
```

4.7 Test Status

This CGS SW release shall be executed on Intel PC with SUSE Linux Enterprise Server 8 (SLES8) based environments. The test status is CGS - AIV tested.

5 Installation Procedures

This software shall be used on Intel PC with SUSE Linux Enterpriser Server 8 (SLES8).

5.1 Complete Installation

For a complete installation follow the instructions of CGS installation manual ref. [AD 2.1].

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

5.2 Patch Installation (based on CGS 6.2.6)

For a patch installation follow the next instructions:

5.2.1 Needed passwords

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

5.2.2 Installation steps

1. login as <cgsadmin> on DB server host

2. cgs shutdown via task_selector

3. quit task_selector

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

5. 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

6. insert CGS basic CD CGS_6.3.0

7. mount CD

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

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

9. unmount CD

10. register version
    in shell: vit_manager -upd_item cgs VERSION 6.3.0_B3_LINUX

11. insert CGS optional CD CGS_6.3.0
    REMARK: This and the next four steps are optional.

12. mount CD

13. install all optional products from CD
    in shell: /<mountpoint>/installer.sh

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

    Select for **Installation Source** path /<mountpoint>/addon

           Continue, Install -- for add-ons (unsupported)
           Exit

14. unmount CD

15. register version
    in shell: vit_manager -upd_item cgs_optional VERSION 6.3.0_B3_LINUX

16. update configuration.xml (optional)
    Insert needed configuration parameter, if necessary. For detailed information refer section 4.5 part 2.

17. prepare USS usage (optional)
    If you want to use CGS together with USS, perform integration steps. For detailed information refer section 4.5 part 17.

18. fix for CGS-SPR-100641 (to late cgs startup on clients - optional)
    in shell:

```
cd $CGS_HOME/gsaf/cgsi/config/System
vi rc.linux.client rc.linux.server

repleace line
# Required-Start: autofs oracle
by
# Required-Start: autofs oracle network nfs

on all affected clients execute as root
chkconfig cgs off

$CGS_HOME/gsaf/cgsi/util/common/install_host_gui
```

19. update CGS directory structure
    in shell:

```
$CGS_HOME/patches/CGS_6.3_0/patch_cgs.sh
```

20. install new system libraries and recompile all UCL/HLCL sources

    in MDB:
    - ✓ Open CLS-Editor for GROUND_LIBRAY UCL system library.
    - ✓ Delete old source.
    - ✓ Load new source from $CGS_HOME/gsaf/cgsi/lib/ucl/ground_library_.ucl.
    - ✓ Compile and Store library. Close editor.
    - ✓ Repeat steps before for GROUND_VALUES (ground_values_.ucl).
    - ✓ Use batch compilation for all effected CCUs.

21. update the MDB / MDB stored procedures
    in shell:

```
$CGS_HOME/patches/CGS_6.3_0/patch_mdb.sh
```

```
  -- needs ca. 8 minutes

verify output: MDB patch successfully installed
verify output: Temp MDB patch successfully installed

REMARK: The next command is only necessary for an update of the internal data structure of
        the MDB (e.g. new data structure delivery for extended databases
       (user defined data types)). During initialization all user entries in the flexible
        tool invocation and flexible reports are deleted.

        This command is optional and the usage shall be decided by projects.

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

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

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
```

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

6. Acronyms

CCU	*Configuration Control Unit*
CGS	*Core Ground SW*
MDBD	*Mission Data Base Data*
PDB	*Project Data Base*
SW	*Software*