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User Manual

CODAC Core System 5.4 CS-Studio Release Notes

In CODAC Core System 5.4, CS-Studio 4.4.7 with some ITER specific add-ons has been released.Key points are the following.Version 5.4.0 - 2017-02-15 CS-Studio enhancements:By default, jumps will be assigned automatically to all horizontal lines crossing another line in an OPIThe alarm context menu allows to create a logbook entry and access to Process Variable information and toolsITER OPI Probe is resizable An Help button in the legend OPI opens codac-help in the default web browser css-dbmanager utility provides a simplified interface. More information with css-dbmanager -helpConnection/Disconnection simulated PV to test the disconnect behaviour on the OPI CS-Studio fixes:Issue with multiple concurrent request to archived data Y Axis autoscale on visible data only Connector issue with non-default route between widgets within different containersIssue with the alarm time since event from the alarm context menu

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1 Introduction

1.1 CODAC Core System Context

In CODAC Core System 5.4, CS-Studio 4.4.7 with some ITER specific add-ons has been released.

1.2 Purpose

The purpose of the Release Notes document is to communicate major new features and changes in this release of the CS-Studio as integrated in CODAC Core System 5.4. It also documents known problems and workarounds.

1.3 Scope

This document describes CS-Studio 4.4.7 for ITER which includes:

- Operator Interface (OPI) – BOY - that connects to the control system, animates graphical widgets according to EPICS process Variable (PV) value, alarm status/severity and connection/RW status, shows PV's range and alarm limits definition and allows the operator to interact with the process by providing input data and sending commands,
- Alarm System – BEAST - that monitors alarm triggers in the control system and provides essential support to the operator by warning him of situations that need his attention, showing guidance, allowing him to open dedicated displays, execute commands and acknowledge raised alarms,
- PON Archive System – BEAUTY - that monitors archived EPICS PVs in the control system and provides a graphical user interface for displaying live and historic data in a plot, making some computation, adding annotations and exporting samples into different file formats such as Excel spread sheet or Matlab,
- Electronic Logbook – OLOG - that registers events entered manually or generated automatically during operation to keep track of problems, human decisions or actions which were taken during the course of the activity and which may have had an impact on the outcome of the activity.
- Sequence of EPICS commands automation – SCAN.

1.4 Related documents

[RD1] CODAC Core System CS-Studio User Guide (QVBYD8)

[RD2] CSS all in one (BFGP5Q)

2 New Features

2.1 BOY Horizontal Line Jump

By default, jumps will be assigned automatically to all horizontal lines crossing another line.

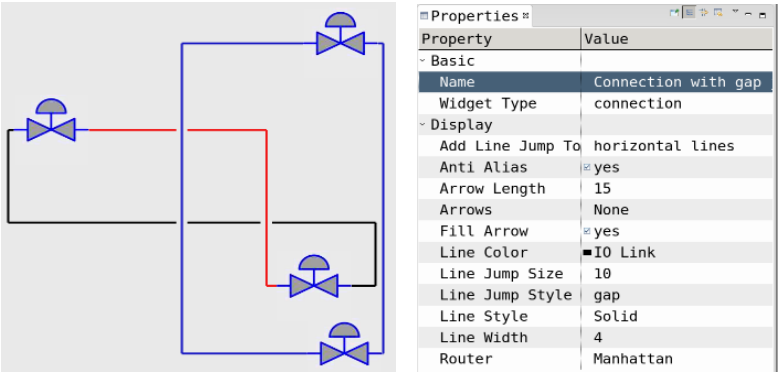

Figure 2-1 Jump Line Default Style

2.2 Alarm Context Menu

The Alarm Pane and Alarms List context menu has been extended to allow creating directly a logbook entry from an alarm message and to access to Process Variable information and tools on the alarm trigger PV.

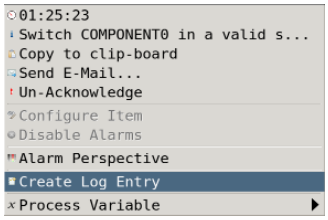

Figure 2-2 Alarm Pane Context Menu

2.3 ITER OPI Probe Resizable

By default the size of ITER OPI Probe fits the control pane / faceplate size. But once detached, it can be resized in order to extend the plot and show more data.

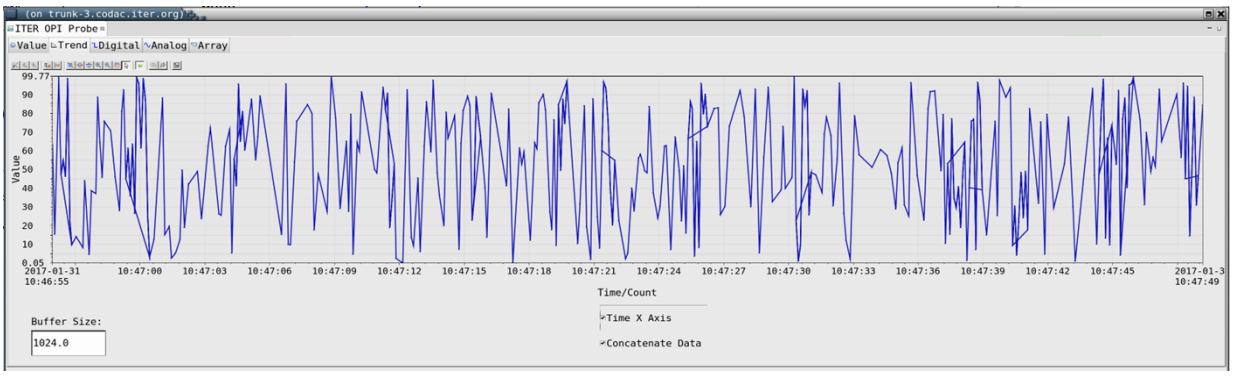

Figure 2-3 Extended ITER OPI Probe Plot

2.4 Help Button on ITER Legend

A help button from the legend opens codac-help in the default web browser.

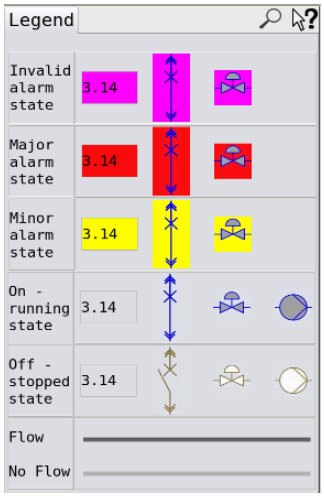

Figure 2-4 Help Button to Open codac-help

2.5 css-dbmanager utility simplified interface

It is possible to initialise, save and restore CS-Studio databases using a simplified syntax:

```
$ css-dbmanager -help

CS-Studio databases manager version: 1.1.0

Usage:

    css-dbmanager -list | -init | -save | -restore [all | archive | alarm | log | logbook] [-
file <my backup file>] [-rdb_name dbname] [-from t1] [-to t2] [-rdb_user user] [-rdb_host host]
[-rdb_url url]

Examples:

    css-dbmanager -init all         # initialise all databases

    css-dbmanager -save archive     # equivalent to css-dbmanager -save -rdb_name
css_archive_3_0_0 -rdb_user archive -rdb_host localhost -file css-archive

    css-dbmanager -restore archive  # equivalent to css-dbmanager -restore -rdb_name
css_archive_3_0_0 -rdb_user archive -rdb_host localhost -file css-archive

    css-dbmanager -save all -from "2016-01-01 00:00:00" -to "2016-06-01 17:00:00"

    css-dbmanager -save log -from "2016-01-01 00:00:00"
```

2.6 Connection/Disconnection Simulated PV

`sim://intermittentChannel(delayInSeconds, value)`

A simulated PV that keeps connecting and disconnecting. This is useful to test disconnect behaviour on the operator interface. The value can be a number, a string, an array of numbers or an array of strings.

2.7 Miscellanea features

The dialog "Python Configuration has been updated automatically and requires a restart" has been removed.

The health monitoring alarm pages for I/O boards, PLC/EVT, CUB, TSTATUS have been integrated into CS-Studio.

The Logbook Python API has been extended to be able to update an entry.

3 Main bug fixes

3.1 Issue with connectors

The issue with non-default routing on connectors between objects in different containers has been fixed.

3.2 Issue with archived data retrieval

Multiple concurrent requests to retrieve archived data for different plotted PVs will not be cancelled with error such as `org.postgresql.util.PSQLException: ERROR: portal "C_n" does not exist`.

3.3 Issue with autoscale on the data visible in the plot

Until now the Databrowser autoscaled the plot based on "buffered" data including ones not visible on the plot after zoom in for instance. This has been changed in order to autoscale the Y axis on the visible part of the plot only.

3.4 Issue with alarm time since event

In the alarm context menu of an alarm message from the alarm pane or the alarms list, the time since event option displays the elapsed time since the alarm happened. Clicking on it will open a popup with the alarm time.

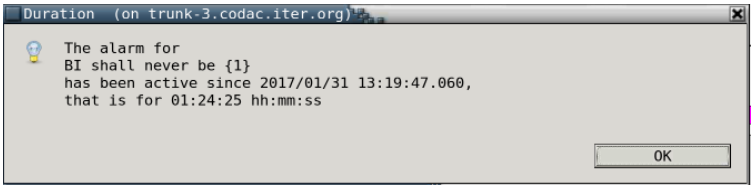

Figure 3-1 Alarm time since event

3.5 Issue with css-dbmanager utility

In addition to the simplification of usage, few bugs have been fixed and the utility is more robust.

3.6 Miscellanea fixes

The Text Input widget has no label by default.

The Check Box widget auto size issue has been fixed.

XY Graph widget context menus are no more repeated twice.

"`PSQLException: value out of range: underflow`" in the `num_metadata` table of the archive RDB has been fixed.

Save snapshot to file from a plot happened to hang on Linux – it has been fixed.

`CS-STUDIO` → `Utilities` → `Search Logbook` - the LogViewer Perspective is opened properly.

Some utilities have been removed from the distribution such as `Clock` and `Therapist`.

4 Known Bugs and Limitations

4.1 Icons too small on 4K screen

This a known issue of Eclipse and shall be resolved in the next release.

4.2 The flash timing of symbols is not synchronised for all flashing states

This issue will be solved for the next release.

4.3 OPI Editor zoom connection issue

Zooming at more than 100% will make some connectors - not all – invisible in the OPI Editor.

4.4 WebOPI cannot be used

The following error will be fixed for the next release:

```
HTTP Status 500 - org.eclipse.core.runtime.CoreException: Plug-in
org.csstudio.opibuilder was unable to load class org.csstudio.webopi.RedirectServlet
```

WebAlarm and WebDatabrowser are not affected by this issue.