

Index Panel

SLAC's Software Engineering Newsletter

SLC Control

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Program

January 28, 1991

All that Fits is News to Print

Vol. 6, No. 2

CATER Version 4.0

January 23, 1992

Author: Robert C. Sass

Subsystem: CATER

User Impact: Medium

Panel Changes: None

Documents: Yes

Help File: Yes

CATER V4.0 incorporates all of the changes requested by the SLAC CATER Users' Group (SCUG) plus a few internal improvements not specifically asked for. The requested improvements which consist mostly of additional Hardware problem fields and entry validation are just summarized below. You can read the specifications document for the gory details (see John Brown,) but hopefully the help screens should provide enough help to help you get through it all. How helpful!

Requested Features

1. Search on Solution Criteria

You can now qualify your Compose-It-Yourself request by specifying solution as well as problem criteria. If you enter ANY solution criteria (in addition to problem criteria), CATER counts the number of solutions that match. If you enter only problem criteria, CATER counts just problems. For the full form, the resulting CATER display is just like the previous version i.e. all solutions and the associated problem are displayed. In the case of multiple solutions, they will all be displayed even though only one of them matched the selected criteria. The line format is also the same as before and it shows only problems associated with those solutions which matched the criteria, so it's not very useful to specify solution criteria and use the line format. See Performance Hints on using solution criteria.

2. Validated micro field

The entry in the "micro" field is still optional but is now validated against an area dependent list if you make an entry. This list is displayed in the help for the field.

3. Validated subsystem field

This is now validated against a list which is shown in the help for the field. As with other CATER validations, you just need to enter the minimum number of characters to uniquely define an entry and the full text is filled in.

4. Use of shop fields to dispatch problems

A main and alternate shop field are used to dispatch new problems to the printers located in each shop. The main shop must always be entered and an initial default is provided based on subsystem and area. The alternate shop may be left blank but if entered, it must be one of the valid set. Help tells all.

5. Validated primary & unit field

If entered it should consist of a valid primary followed by a space and a unit number e.g. QUAD 111. The unit number is not validated against the database at this time but must be numeric. The primary is validated for some subsystems. Again, help helps.

Other New Features

1. We have upgraded the Rdb database software to the latest DEC version so we can keep pace with future enhancements.
2. User names are now automatically retrieved from a system file on the VAX based on the userid. A full 31 characters are stored and displayed for the problems or solutions. Many displays were reorganized to accommodate this. If you enter initials that correspond to a valid VAX account, then the name is automatically entered. Otherwise, you must manually enter a name.
3. Since Shift-TAB generates the same code as TAB on VT220 (and other) keyboards, CTRL-B is now the preferred way to go back through fields in a menu and works on any keyboard. Shift-TAB still works on Ambassadors and other terminals which generate the unique code. All menus have been changed to show CTRL-B as the standard.
4. There is a MODEST performance enhancement due to increased buffering and index changes but nothing outstanding.
5. A number of minor bugs (uncatered!!) have been fixed.

Compose-It-Yourself Performance Hints.

Here are some general guidelines to effectively use the Compose-it-yourself displays and avoid long waits to retrieve records.

1. The database is set up to optimize the retrieval of a specific problem number or the currently active problems i.e. those in the SOLVED or UNSOLVED state. If you're browsing through the database, always qualify your search by some combination of PROBLEM NUMBER (no others required here), STATUS, URGENCY or REPORT BEFORE/AFTER DATE. If you don't enter one or more of these fields, then the entire database must be searched and you can expect to take a coffee break while it's looking.
2. Refine your selection until the number of problems which match the criteria you've specified is fairly small. If you've specified criteria that result in a large number of selected records, it can take some time to "gather them up" so you can look at them. Counting can often be done without actually going through the entire record and is usually faster.
3. Searching on Solution criteria takes longer than just looking at problems so again, restrict your requests to active problems by making entries in the problem STATUS, URGENCY or REPORT DATE fields and it won't be too bad. **If you enter just solution criteria without any criteria limiting the associated problems, you can expect to go to lunch while you wait.**

4. There is another reason to be careful in the selection of your search criteria. It's sad but true that there is no mechanism in the underlying Rdb database to stop a query once it has begun other than to CTRL-Y out of CATER.
5. If you have a specific report that you always do and it takes too long, contact Software Engineering to see if it can be speeded up.

BPM CUD Update

January 22, 1992

Author: *Daniel Van Olst*

Subsystem: *Monitors*

User Impact: *Small*

Panel Changes: *Many*

Documents: *No*

Help File: *Yes*

Numerous changes have been made to the BPM Continually Updating Displays (CUD). Many were to fix longstanding problems with the displays; some were to just clarify their use. This article will briefly review some of these changes and also will review the use of the BPM Continually Updating Displays.

To assign a BPM display to a monitor, first go to the SPECIAL DISPLAYS panel, then to SDS (also known as CUD) CONTROL panel. From there, go to the CUD BPM panel. (The BPM Continually Updating Displays have been moved from the CUD CONTROL panel to the CUD BPM panel to make more room).

Next, select the display of interest. There are about a dozen bpm displays available. Each display is associated with a BPM measurement definition; however, the range and scale are fixed for the display in the database.

To determine which display is required, use the new display SHOW CUDBPM INFO. This will show the range and measurement definition for each display, as well as extra information for the measurement definition associated with the display.

Check the DIFF DISPLAY TOGL setting. It will either show ABS or DIFFTMT. If DIFFTMT is chosen, the display will be with respect to the gold orbit for the measurement definition.

Return to the CUD CONTROL panel. Select the monitor of interest and press DISPLY ONTO MONITR. The display should appear on the monitor after a few seconds.

There is one additional display on the CUD BPM panel: the BPM ALL display. If this display is put onto a monitor, a user-selectable set of BPM displays rotates on the monitor. The displays that appear are chosen with the CYCLE DISPLY TOGL button. Note that the DIFF toggle button selects the DIFFTMT-ABS setting for a display when it appears by itself, and for when it is added to the BPM ALL display. Once a display has been included in the BPM ALL display, the DIFF and the CYCLE toggle buttons will no longer have any effect on it.

HELP has been added to both the CUD CONTROL panel and the CUD BPM panel. If changes are required for a BPM display with regards to its measurement definition, range, or scale, contact Daniel Van Olst at x3475.

Changes to History Buffer Correlations System

January 21, 1992

Author: *Gregory R. White*
Panel Changes: *None*

Subsystem: *History Buffers*
Documents: *No*

User Impact: *Small*
Help File: *Yes*

Some changes have been made to the user interface of the History Buffer Correlations (HCRL)

system for release 2.1. This facility is available via the

HISTRY BUFFER CORREL

button which is generally located

anywhere from which a regular history plot can be done.

Device Name Specification

When a device name is assigned to a dependent variable (by the ENTER DEVICE NAME button,) help is now given with the selection of valid device names. The system still assumes that device names are being entered in the order of most significant domain to least significant - that is, primary, micro, unit, secondary, and finally channel if pertinent.

The device name, (or partial device name, for instance you can choose to enter only the primary and micro) is then checked against the available history buffer files. If the entered value for any domain (primary, micro, unit, secondary, or channel) does not correspond to a history buffered device name, a list of all the possible values for that domain is given in the LOCAL MESSAGES window.

Typing a '?' in place of the domain value would result in the display of all valid entries for that domain. For instance, if one entered 'LGPS ?', a list of all the micros reporting an LGPS value would be listed. A '?' may only be entered as the least significant part of the device name for which you wish to enter a value because of the defaulting rules.

Defaulting Rules

The order in which defaults are selected for any domain is as follows:

1. Most recently entered value for that domain for that dependent variable
2. If this dependent variable had no previous value, then the most recently entered value for the current domain in the most recently entered dependent variable
3. If neither of the above select a valid default, a value that satisfies the more significant domains is selected, as discussed above. If the history files contain more than one value that satisfy the device name given so far, then the selection will be based on alphabetical order
4. If then '?' is used to get more, the highest valued part is used.

Acquire Only Required Data

The HCRL facility now acquires data only once for any device for any time range.

If the time range for the plot is fixed (e.g. LAST24HR is not fixed, but a plot between two dates is) then acquisition is performed only once for each device name. This includes the situation in which a device name is swapped from one variable label to another, say A to C - any acquired data will be swapped also.

Similarly, data will be acquired only for those dependent variables that are actually used in the selected chart.

Date Ranges

The date and time range of all plots is printed at the bottom of the plot.

Common Names

Common names for devices that have them have been added (in parentheses) to device names at the top of the plot.

Some miscellaneous plot information and text changes have been made; also, more extensive help is provided on linear correlation and the correlation error function.

Toroid Yield and Subyield Histograms

January 14, 1992

Author: *Steve Levitt*

Subsystem: *BPM*

User Impact: *Small*

Panel Changes: *None*

Documents: *No*

Help File: *None*

A graphical version of the special displays PYIELD, EYIELD and PEPYLD has been added to the SCP. To produce the plots select one of these special displays from the BPM Measurement panel,

and then press the

BPM
vs
Z

button. Two histograms are given: one for the yields, and one for

the subyields, each showing the actual and "gold" values for the toroids. The "gold" values for the yields and subyields are shown as outlines while the actual yields and subyields are shown as filled bars. The color of the filled bars depends on the ratio of the actual (sub)yields to their gold values. If the ratio is 95% or above the bar is green, if the ratio is 90-94% the bar is yellow, and if the ratio is below 90% the bar is red.

Buffered Acquisition of Polarization State

January 14, 1992

Author: *Steve Levitt*

Subsystem: *BPMS*

User Impact: *Small*

Panel Changes: *Few*

Documents: *No*

Help File: *None*

A new button

TOGGLE
POLAR
STATE

on the BPM Buffered Acquisition panel allows the data acquisitions to

be filtered according to the polarization state of the beam. The button cycles through the values ANY, LEFT, RIGHT, ZERO, or ERROR and produces displays accordingly. These states are taken from the two polarization bits in the Vetobus word and correspond to the high voltage present on the Pockel cell responsible for producing polarized light in the laser system.

The significance of the various filtering states are as follows:

- ANY - the displays are unfiltered. This is the default, and produces displays as they were before.
- LEFT - the acquisitions marked as left polarized are shown.
- RIGHT - the acquisitions marked as right polarized are shown.
- ZERO - the acquisitions marked as neither left nor right polarized are shown.
- ERROR - the acquisitions marked as both left and right polarized are shown.