

Published: 07/18/68
 (Supersedes: BX.3.11 06/18/68)

Identification

Cancel Command
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Purpose

The cancel command is used in conjunction with unclaimed_signal (BY.11.05) and the listener (BX.2.02). Cancel causes control of a user-defined condition which had not been enabled previously in the process.

Usage

The user issues the command

```
cancel
```

Discussion

Conceptually, the cancel command wants merely to unwind the stack to the incidence of the appropriate listener. Since the appropriate listener must be reached, two non-local go to's are required. Consider the conceptual stack where each procedure calls the one immediately below it.

Listener
Shell
Command
Subroutine
Signal
Unclaimed_signal
Listener
Shell
Cancel

- signals undefined user condition

If cancel were to simply unwind to the nearest listener a good deal of stack would be unnecessarily wasted, and further unintentional use of the continue command (BX.3.10) could cause unwanted results. The approach taken is to unwind to unclaimed_signal which then unwinds to the nearest listener.

Implementation

Cancel, the continue command, and unclaimed_signal all utilize the same internal static label variables. All three are contained in one procedure segment. The listener calls an initialization entry in unclaimed_signal to set the label to which unclaimed_signal should transfer in the event of a cancel command.

- 1) Cancel uses a label variable which was set in an external segment by unclaimed_signal.

```
    dcl cancel_label label internal static;
```
- 2) If cancel_label has not been set by unclaimed_signal, the cancel command is inappropriate. Cancel announces the error to the user and returns.
- 3) If the label has been set, cancel then executes a non-local go to causing control to go to the appropriate place in unclaimed_signal. Unclaimed_signal performs similar actions in executing a non-local go to which passes control to the listener immediately above unclaimed_signal in the stack. The user is then back at command level, having canceled the command which encountered the signalling of an undefined condition.