CA Verify® Automated Regression Testing for CICS

Rules Primer

Version 9.0.00

CA Technologies Product References

This document references the following CA Technologies products:

CA Verify® Automated Regression Testing for CICS (CA Verify for CICS)

CA Verify® Automated Regression Testing for VTAM (CA Verify ART for VTAM)

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Chapter 1: Introduction

This section contains the following topics:

Introduction

CA Verify Automated Regression Testing for CICS (CA Verify for CICS) identifies changes in a test stream of pre-recorded 3270 activities. The test stream can be used repeatedly against a new software release, such as CICS, MVS, or application, for both regression and volume testing.

But what if the application changes? In CA Verify for CICS Release 4.3, this was handled through the Run Mismatch panel. Some of the options that were available from this panel in Release 4.3 include:

- Setting up an auto or local variable,

- Ignoring the change, or

- Accepting the change.

In Release 4.3, these options can only be established or accessed during a run. However, there are many instances where the changes are known in advance. Here are two examples:

- An application has changed all the dates from a two-character year format to a four-character year format to be twenty-first century compliant.

- A new field has been added to a screen.

In Release 4.4 and higher, the *rules* function allows you to specify known changes in advance **or** add them during the run. Changes are specified in rules that are contained in a ruleset. Rulesets notify CA Verify for CICS to expect certain changes and specify how CA Verify for CICS should handle them. Then, when a test stream is run, CA Verify for CICS will automatically add or remove the fields or change the title as specified in the ruleset without interrupting the run. The run is only interrupted for true exceptions.

The rules function also lets you control what is logged by using logging rules. Logging rules let you specify a list of user IDs, terminals, or transaction IDs that are to be included or excluded from the logging session.

There are three types of rulesets: test stream, system, and application. How a rule is applied when the test stream is run depends on the type of ruleset that the rule belongs to.

- In a *test stream ruleset*, rules are applied to all screens in the test stream.

- In a *system ruleset*, rules are applied to all screens in all test streams in the system.

- In an *application ruleset*, rules are applied to all test streams in the application.

Note: Rules will be applied in the order they are specified in the ruleset you select. If you select multiple rulesets, rules in the test stream ruleset will be applied first; rules in the application ruleset will be applied second; rules in the system ruleset will be applied last.

The *Rules Primer* is structured as follows:

- Chapter 1 provides an overview of the rules function, describes the organization of this guide, and provides the information you need to get started with this Primer.

- Chapter 2 takes you on a step-by-step demonstration of the CA Verify for CICS rules function being applied during the testing of a sample program.

- Appendix A shows the screens in the demonstration program.

- The Glossary contains definitions of common terms.

Conversion Considerations

CA Verify for CICS Release 4.3 provides three types of variables: global, auto, and local. These variables are stored with each test stream. Starting with CA Verify for CICS Release 4.4, these three types of variables have been incorporated into the Rules function. Variables, as well as all other types of field changes (like move field and change field value), can be defined using recognition and screen rules.

Conversion Details

The first time a Release 4.3 test stream runs in a Release 4.4 or higher environment, the test stream will be reviewed to see if it has existing global, auto, or local variables. If it does, these variables will be automatically converted to Release 4.4 or r8.5 rules that will be applied during the run. Variables are converted as follows:

- *Auto* variables translate into a rule with field recognition criteria

- *Local* variables translate into a rule with screen recognition criteria

- *Global* variables translate into a rule with no recognition criteria (neither field nor screen)

The resulting Release 4.4 or r8.5 test stream will no longer contain any global, auto, or local variables, but will have a ruleset with the same name as the test stream associated with it.

In addition, if a Release 4.3 test stream is *copied* to a new test stream using the online utilities or a batch copy in a Release 4.4 or r8.5 environment, the global, auto, and local variables will be converted into a ruleset with a matching name—just as if the test stream had been run in a Release 4.4 or r8.5 environment. This is the recommended method if you have Release 4.3 test streams that will need to be manipulated using the rules function.

Note: If a Release 4.3 test stream has run in a Release 4.4 or higher environment, it can still run in a Release 4.3 environment; however, any test stream created in Release 4.4 or r8.5 *cannot* run in Release 4.3.

Purpose

The *Rules Primer* is intended to introduce the CA Verify for CICS rules function, and bring the experienced CA Verify for CICS user quickly up to speed on this new function.

A sample application program, the Carol's Cookies Company order processing program, is used to demonstrate how the rules function works in practice. Screens illustrate each step of the demonstration so that you can follow along using only this manual. You may also follow the demonstration online.

It is strongly recommended that you be familiar with the purpose and functionality of CA Verify for CICS before trying the examples in this Primer. In addition, you must complete the Installation Verification Procedure (IVP) found in the chapter "Installation Verification Procedure and Demo Session" of the *User Guide* before performing the steps in this Primer.

Related Publications

For more information on CA Verify for CICS, see the *User Guide* or the *Installation Guide.*

Getting Started

The demonstration program used for the examples in this Primer is automatically installed with CA Verify for CICS and is an extension of the IVP found in the chapter "Installation Verification Procedure and Demo Session" of the *User Guide*. Therefore, you *must* complete the IVP first to get a basic understanding of the rules function, and then continue with the tasks in the Primer.

If you have access to a machine with CA Verify for CICS installed, follow the steps in this Primer to activate CA Verify for CICS and use the demonstration program.

Chapter 2: Sample Application

A sample application program is distributed and automatically installed with CA Verify for CICS. This simple program is an order processing application for a fictional company, Carol's Cookies Company. It allows a telephone operator to process new orders for cookies, as well as check the current status of existing orders. During the IVP, modifications were made to Release 6.2 of the order entry program in preparation for Release 6.3, and then Release 6.3 was installed, run, and the test stream corrected.

Important! You *must* complete the Installation Verification Procedure (IVP) found in the chapter "Installation Verification Procedure and Demo Session" of the User Guide before continuing with the steps in this Primer.

This section contains the following topics:

Release 6.3 Test Stream

The sample test stream recorded the input and output screens for checking the status of an order. Here are some panels from the test stream.

Check an Order

The first panel that a Carol's Cookies Company telephone operator sees is the main panel.

```
 DATE: 07/10/98              CAROL'S COOKIES COMPANY          RELEASE 6.3
 TIME: 14:06:05                    MAIN MENU


 ENTER OPTION:


        1) PLACE AN ORDER

        2) CHECK STATUS OF AN ORDER




```

Follow these steps:

1. When the operator takes a call about the status of an order, he chooses option 2 on the Main Menu.

    A selection panel opens as shown next.

```
 DATE 07/10/98               CAROL'S COOKIES COMPANY          RELEASE 6.3
 TIME 14:06:05                 ORDER STATUS SELECTION




        CUSTOMER NAME       ORDER NUMBER   STATUS      AMOUNT

     _  JOHN SMITH          100-120-15     ON ORDER    17.90
     _  BILL JONES          100-205-12     SHIPPED     22.67
     _  SUE WILLIAMS        100-271-15     ON ORDER    34.30



```

2. The operator selects the first customer's name and presses Enter.

   The order and status information displays on the screen:

```
DATE 07/10/98              CAROL'S COOKIES COMPANY            RELEASE 6.3
TIME 14:06:05                    ORDER STATUS



           CUSTOMER NAME: JOHN SMITH

           STATUS: O N ORDER


           ITEM # DESCRIPTION  QUANTITY    PRICE    AMOUNT
            137    CHOC CHIP     1 DZ       5.00      5.00
            474    OATMEAL RSN   2 DZ       5.00     10.00

           SUBTOTAL:                15.00
           TAX:                       .90
           SHIPPING & HANDLING:      2.00

           TOTAL:                   17.90
```

Release 7.0 Changes

The following changes will be coming in Release 7.0 of this application:

1. The date will be expanded to include a four-digit year to prepare for the year 2000. This, of course, is critical for all companies who expect to do business in the new millennium.

2. All panels will show the new release level.

3. On the Order Status panel, a new field will be added called RUSH. If a client calls in about his order, this field is set to Y so the order gets a higher shipping priority.

```
DATE 07/11/1998            CAROL'S COOKIES COMPANY          RELEASE 7.0
 TIME 14:06:05                   ORDER STATUS



          CUSTOMER NAME: JOHN SMITH

          STATUS: O N ORDER              RUSH? Y


          ITEM # DESCRIPTION  QUANTITY    PRICE   AMOUNT
           137    CHOC CHIP    1 DZ        5.00     5.00
           474    OATMEAL RSN  2 DZ        5.00    10.00

          SUBTOTAL:               15.00
          TAX:                      .90
          SHIPPING & HANDLING:     2.00

          TOTAL:                 17.90
```

Task List

For this demonstration, you will perform the following list of tasks:

1. Invoke CA Verify for CICS.

2. Review the ruleset created in the IVP.

3. Edit this ruleset.

4. Install Release 7.0 of Carol's Cookies Company.

5. Run the test stream.

6. Encounter and correct mismatches.

Invoke CA Verify for CICS

The original CA Verify for CICS test stream for Carol's Cookies Company was recorded at release level 6.3. You are familiar with that release level, and you have just reviewed the changes that open in Release 7.0.

Follow these steps:

1. Start CA Verify for CICS.

2. Clear your screen.

3. Type xtca and press Enter.

   CA Verify for CICS displays the Primary Options menu.

Review the Ruleset

Since this demonstration uses the ruleset created during the IVP, refamiliarize yourself with the rule and rule actions in this ruleset by viewing the Browse Rules—Summary panel.

Follow these steps:

1. Type **M** on the Primary Options menu and press Enter.

```
 Version 9.0.00  -------  CA VERIFY PRIMARY OPTIONS MENU  ----------------13:44:59
 ENTER COMMAND ===> M                                          TERM:
60L2050
                                                              OPER:

   L  LOG A TEST STREAM

   B  BROWSE A TEST STREAM

   R  RUN A TEST STREAM

   E  EDIT A TEST STREAM

   M  MAINTAIN RULES

   I  INQUIRY/TERMINATION OF FUNCTIONS

   U  UTILITIES

   T  TUTORIAL

   X  EXIT
          *** ENTER "KEYS" COMMAND TO SEE PF KEY ASSIGNMENTS ***


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```

CA Verify for CICS displays the Maintain Rules menu.

2. Type **B** on the Maintain Rules menu and press Enter.

```
----------------------- MAINTAIN RULES ----------------------12:05:38
ENTER COMMAND ===> B

  A   ADD A RULESET              C   COPY A RULESET
   B   BROWSE A RULESET           D   DELETE A RULESET
   E   EDIT A RULESET             R   RENAME A RULESET

RULESET NAME:

  DDNAME     ===> TCADS
  APPLICATION ===>                  (LEAVE APPLICATION, MEMBER,
  MEMBER      ===>                   OR VERSION BLANK AND PRESS
  VERSION     ===> 001              ENTER FOR A SELECTION LIST)









   F1-HELP      F3-END       F4-RETURN
```

CA Verify for CICS displays the Browse: Ruleset Selection panel.

3. Locate the ruleset named CCC.ORDERAPP.002. Tab to it and type **s** to the left of its
    name. Press Enter.

```
---------------------- UTILITIES: RULESET SELECTION ------------------09:12:42
ENTER COMMAND ===>
FILE: TCADS
B-BROWSE    E-EDIT   D-DELETE    C-COPY    R-RENAME

                          --CREATED----BY---- --UPDATED----BY----  RULES ITEMS
_ CCC       ORDERAPP 001   06/02/1998          07/09/1998            1    3
                         CAROL'S COOKIES COMPANY DEMO PROGR AM
s CCC       ORDERAPP 002   06/03/1998          07/09/1998            1    2
                         CAROL'S COOKIES COMPANY DEMO PROGRAM
_ CUTPAST   TEST     001   03/11/1998          05/06/1998            4    8
                         TRY CUT/PASTE FOR A SELECTION SCREEN
_ CUTPAST   TEST     002   05/28/1998          05/28/1998            2    3
                         TRY CUT/PASTE FOR A SELECTION SCREEN
_ ITEST     TEST     001   04/22/1998          04/22/1998            1    1
                         TEST DATAGEN
_ LOGRULES  SAMPLE   001   05/19/1998          07/07/1998            1    2
                         A BUNCH OF LOGGING RULES
_ LOGRULES  SAMPLE   004   06/19/1998          06/19/1998            1    1
                         JUST TERM RULE ACTION
_ LOGRULES  SAMPLE   005   06/19/1998 GRID001  07/07/1998            1    2
                         MULT TERM ALL ='S; COUPLE USERID'S

   F1-HELP       F3-END        F4-RETURN    F7-UP        F8-DOWN
```

CA Verify for CICS displays the Browse Rules—Summary panel:

```
----------------------BROWSE RULES - SUMMARY ----------------12:53:26
ENTER COMMAND ===>

RULE NAME: RUL00001              RULESET NAME:    TCADS.CCC.ORDERAPP.002
LINE   1 TO  5 OF  5             TEST STREAM NAME: TCADS.CCC.ORDERAPP.002

S-BROWSE    P-PREVIEW
  OBJECT      TYPE ROW  COL LEN OP  VALUE FROM MODEL SCREEN/DESCRIPTION
_ RULESET     T/S                   TCADS.CCC.ORDERAPP.001
_  RULE                             RUL 00001
_   FLD-RECOG       1   30  23 EQ  CAROL'S COOKIES COMPANY_____
_     VARIABLE OUT  1    7   8      07/10/98_____
_     VARIABLE OUT  2    7   8      14:06:05_____




 F1-HELP  FF3-END  F4-RETURN  F7-UP  F8-DOWN
```

Notice that the field recognition criteria are Carol's Cookies Company, and that the last two rule actions changed the date and time field values to variables.

Edit the Ruleset

Now that you have reviewed the rule and rule actions in the ruleset created for Release 6.3, you are ready to update the existing rule and add a new rule for Release 7.0. The resulting ruleset will contain two rules, one common rule that will apply to all screens and one rule that will only apply to the Order Status panel.

Follow these steps:

1. Press PF3 twice.

    You return to the Maintain Rules panel with the name of the ruleset you were viewing filled in the RULESET NAME area.

```
------------------------- MAINTAIN RULES ----------------------12:05:38
ENTER COMMAND ==>

   A  ADD A RULESET               C  COPY A RULESET
   B  BROWSE A RULESET            D  DELETE A RULESET
   E  EDIT A RULESET              R  RENAME A RULESET

RULESET NAME:

  DDNAME      ==> TCADS
  APPLICATION ==> CCC            (LEAVE APPLICATION, MEMBER,
  MEMBER      ==> ORDERAPP        OR VERSION BLANK AND PRESS
  VERSION     ==> 002             ENTER FOR A SELECTION LIST)





   F1-HELP      F3-END        F4-RETURN
```

2. Edit the ruleset shown in the RULESET NAME area.

3.   Type **E** on the command line and press Enter.

```
------------------------ MAINTAIN RULES ----------------------12:05:38
ENTER COMMAND ==> E

   A  ADD A RULESET              C  COPY A RULESET
   B  BROWSE A RULESET           D  DELETE A RULESET
   E  EDIT A RULESET             R  RENAME A RULESET

RULESET NAME:

  DDNAME      ==> TCADS
  APPLICATION ==> CCC          (LEAVE APPLICATION, MEMBER,
  MEMBER      ==> ORDERAPP      OR VERSION BLANK AND PRESS
  VERSION     ==> 002           ENTER FOR A SELECTION LIST)









   F1-HELP      F3-END      F4-RETURN
```

The Edit Rules—Summary panel for the RUL00001 rule displays. This panel is a summary of all of the information that has been entered for this ruleset. From this panel you can do the following:

■   Select an entry to see the details by typing **S** next to the entry and pressing Enter. For example, selecting a rule action (like FLD-RECOG, MOVE, or NEW) displays the completed data entry screen for the rule action you have selected.

■   Preview a rule by typing **P** next to the rule entry and pressing Enter. Preview displays what a screen would look like if all of the rule actions in a rule were applied.

   Note: Only rules and rule actions can be previewed.

Change the Release Number

Add a rule action changing the release number from 6.3 to 7.0.

Follow these steps:

1. Tab to the last rule action and type i. Press Enter**.**

```
---------------------- EDIT RULES - SUMMARY  ----------------12:53:26
ENTER COMMAND ===>

RULE NAME: RUL00001            RULESET NAME:     TCADS.CCC.ORDERAPP.002
LINE   1 TO  5 OF  5           TEST STREAM NAME: TCADS.CCC.ORDERAPP.002


S-EDIT   I-INSERT   D-DELETE   R-REPLICATE     P-PREVIEW
  OBJECT       TYPE ROW  COL LEN OP  VALUE FROM MODEL SCREEN/DESCRIPTION
_  RULESET     T/S                   TCADS.CCC.ORDERAPP.002
_   RULE                             RUL00001
_    FLD-RECOG        1   30  23 EQ  CAROL'S COOKIES COMPANY_____
_    VARIABLE OUT     1    7   8     07/10/98_____
i    VARIABLE OUT     2    7   8     14:06: 05_____



  F1-HELP  FF3-END  F4-RETURN  F7-UP  F8-DOWN
```

The Add Rules—Rule Actions panel opens.

2. Type 6 on the command line. Press Enter.

```
---------------------- ADD RULES - RULE ACTIONS ----------------------09:14:12
ENTER COMMAND ===> 6

RULE NAME    ===> RUL00001   RULESET NAME:     TCADS.CCC.ORDERAPP.002
                             TEST STREAM NAME: TCADS.CCC.ORDERAPP.002


DESCRIPTION  ===>
             ===>

      1  FIELD RECOGNITION          11  GENERATE FIELD VALUE
      2  SCREEN RECOGNITION         12  INSERT SCREENS
      3  VARIABLE FIELD             13  DELETE SCREENS
      4  DELETE FIELD               14  CUT SCREEN FIELD
      5  MOVE FIELD                 15  PASTE SCREEN FIELD
      6  CHANGE FIELD VALUE         20  USERID LOGGING
      7  NEW FIELD                  21  TERMINAL ID LOGGING
      8  CHANGE AID KEY             22  TRANSACTION ID LOGGING
      9  CHANGE CURSOR LOCATION
     10  CHANGE WCC VALUES




  F1-HELP   F2-PREVIEW   F3-END   F4-RETURN   F9-SELECT
```

The Rules: Expected Screen panel opens.

3. Position your cursor on the 6 of the release version. Press PF9.

```
 CCC.ORDERAPP.002 ----------  RULES:  EXPECTED SCREEN--------------------------
 ENTER COMMAND ===>                                       IN RECORD:     3
 TCA4042 - MOVE CURSOR TO CHANGED FIELD AND PRESS "SELECT" KEY
    ----+----|----+----|----+----|----+----|----+----|----+----|----+----|----+
   |  DATE 07/10/98             CAROL'S COOKIES COMPANY          RELEASE  6.3
   |  TIME 14:06:05                     MAIN MENU
   |
 4 |
   |
   |
   |  ENTER OPTION: 2
 8 |
   |
   |          1) PLACE AN ORDER
   |
12 |          2) CHECK STATUS OF AN ORDER
   |
   |
   |
16 |
   |
   |
20
```

The information will be entered in the Add Rule Actions—Change Field Value panel.

4. Change the field value. Tab to FIELD VALUE and type 7.0 over 6.3. (This changes the value from 6.3 to 7.0.) Press Enter to update. Press PF3.

```
 -------------------ADD RULE ACTIONS - CHANGE FIELD VALUE---------UPD SUCCESSFUL
   ENTER COMMAND ===>

   RULE NAME: RUL00001          RULESET NAME:    TCADS.CCC.ORDERAPP.001
                                TEST STREAM NAME: TCADS.CCC.ORDERAPP.001


   CHANGED FIELDS:
   ROW COL  LEN  ATTR FIELD VALUE
   01  072  003  PSM_ 7.0_____
                      _____
                      _____


  OUTPUT/INPUT FIELD  ===> O      ( I=INPUT, O=OUTPUT)


   F1-HELP  F2-PREVIEW  F3-END  F4-RETURN  F9-SELECT
```

The field change information is saved.

5. View the result of your change. Press PF2 (Preview).

```
CCC.ORDERAPP.002 ---------- RULES:  EXPECTED SCREEN------------------09:15:28
ENTER COMMAND ===>                                      OUT RECORD:      2
         10        20        30        40        50        60        70    M5
   ----+----|----+----|----+----|----+----|----+----|----+----|----+----|----+
   | DATE 07/10/98               CAROL'S COOKIES COMPANY            RELEASE 7.0
   | TIME 14:06:05                     MAIN MENU
   |
   4
   |
   |
   | ENTER OPTION:
   8
   |
   |           1) PLACE AN ORDER
   |
  12           2) CHECK STATUS OF AN ORDER
   |
   |
   |
  16
   |
   |
  20
```

The updated panel opens with 7.0 replacing 6.3.

6. Press PF3 twice.

You return to the Edit Rules—Summary panel. Now you are ready to enlarge the date field.

Enlarge the Date Field

To enlarge the date field, do the following tasks:

1. Remove the rule action defining the date value as a variable.

2. Move the year portion of the date field two columns to the right to accommodate a four-digit year.

3. Insert the century value.

Remove the Rule Action

Follow these steps:

1. Tab to the first VARIABLE rule action and type D. Press Enter.

```
------------------------- EDIT  RULES - SUMMARY --------------------09:15:56
ENTER COMMAND ===>

RULE NAME: RUL00001           RULESET NAME:    TCADS.CCC.ORDERAPP.002
LINE   1 TO   6 OF   6        TEST STREAM NAME: TCADS.CCC.ORDERAPP.002

S-EDIT  I-INSERT  D-DELETE  R-REPLICATE  P-PREVIEW
  OBJECT      TYPE ROW  COL LEN OP  VALUE FROM THE MODEL SCREEN/DESCRIPTION
_ RULESET     T/S                   TCADS.CCC.ORDERAPP.002
_  RULE                             RUL00001                     <APPLIED>
_   FLD-RECOG       1   30  23 EQ  CAROL'S COOKIES COMPANY       <RECOGNIZED>
d    VARIABLE OUT    1    7   8     07/10/98                      <APPLIED>
_    VARIABLE OUT    2    7   8     14:06:05                      <APPLIED>
_    CHANGED  OUT    1   72   3     7.0                           <APPLIED>




    F1-HELP    F3-END      F4-RETURN    F7-UP    F8-DOWN
```

The rule action is removed and your screen now looks like this:

```
------------------------- EDIT  RULES - SUMMARY --------------------09:15:56
ENTER COMMAND ===>

RULE NAME: RUL00001           RULESET NAME:    TCADS.CCC.ORDERAPP.002
LINE   1 TO   5 OF   5        TEST STREAM NAME: TCADS.CCC.ORDERAPP.002

S-EDIT  I-INSERT  D-DELETE  R-REPLICATE  P-PREVIEW
  OBJECT      TYPE ROW  COL LEN OP  VALUE FROM THE MODEL SCREEN/DESCRIPTION
_ RULESET     T/S                   TCADS.CCC.ORDERAPP.002
_  RULE                             RUL00001                     <APPLIED>
_   FLD-RECOG       1   30  23 EQ  CAROL'S COOKIES COMPANY       <RECOGNIZED>
_    VARIABLE OUT    2    7   8     14:06:05                      <APPLIED>
_    CHANGED  OUT    1   72   3     7.0                           <APPLIED>




    F1-HELP    F3-END      F4-RETURN    F7-UP    F8-DOWN
```

Move the Year Field

Follow these steps:

1. Insert the rule action to move the year portion of the DATE field two columns to the right.

2. Tab to the CHANGED rule action and type I. Press Enter.

```
------------------------- EDIT  RULES - SUMMARY --------------------09:16:09
ENTER COMMAND ===>

RULE NAME: RUL00001          RULESET NAME:    TCADS.CCC.ORDERAPP.002
LINE   1 TO   5 OF   5       TEST STREAM NAME: TCADS.CCC.ORDERAPP.002

S-EDIT  I-INSERT  D-DELETE  R-REPLICATE  P-PREVIEW
  OBJECT      TYPE ROW  COL LEN OP  VALUE FROM THE MODEL SCREEN/DESCRIPTION
_ RULESET     T/S                   TCADS.CCC.ORDERAPP.002
_   RULE                            RUL00001
i   FLD-RECOG       1   30  23 EQ   CAROL'S COOKIES COMPANY
_     VARIABLE OUT   2    7   8     14:06:05
_     CHANGED  OUT   1   72   3     7.0




  F1-HELP    F3-END     F4-RETURN    F7-UP     F8-DOWN
```

The Add Rules—Rule Actions panel opens.

3. Type 5 on the command line. Press Enter.

```
----------------------ADD RULES - RULE ACTIONS---------------
 ENTER COMMAND ===> 5

RULE NAME: RUL00001          RULESET NAME:    TCADS.CCC.ORDERAPP.002
                             TEST STREAM NAME: TCADS.CCC.ORDERAPP.002

DESCRIPTION  ===> RELEASE 6.2 TO 6.3 CHANGES
          ===>

       1  FIELD RECOGNITION          11  GENERATE FIELD VALUE
       2  SCREEN RECOGNITION         12  INSERT SCREENS
       3  VARIABLE FIELD             13  DELETE SCREENS
       4  DELETE FIELD               14  CUT SCREEN FIELD
       5  MOVE FIELD                 15  PASTE SCREEN FIELD
       6  CHANGE FIELD VALUE         20  USEID LOGGING
       7  NEW FIELD                  21  TERMINAL ID LOGGING
       8  CHANGE AID KEY             22  TRANSACTION ID LOGGING
       9  CHANGE CURSOR LOCATION
      10  CHANGE WCC VALUES


  F1-HELP     F2-PREVIEW      F3-END      F4-RETURN      F9-SELECT
```

The Rules: Expected Screen panel opens.

4. Position your cursor on the 9 of the year. Press PF9.

```
 CCC.ORDERAPP.002 ---------- RULES:  EXPECTED SCREEN--------------------------
 ENTER COMMAND ===>                                        OUT RECORD:     2
 TCA4045 - MOVE CURSOR TO FIELD TO BE MOVED AND PRESS "SELECT" KEY
    ----+----|----+----|----+----|----+----|----+----|----+----|----+----|----+
   | DATE 07/10/98               CAROL'S COOKIES COMPANY         RELEASE 7.0
   | TIME 14:06:05                      MAIN MENU
   |
   |
  4
   |
   |
   | ENTER OPTION:
  8
   |
   |         1) PLACE AN ORDER
   |
 12         2) CHECK STATUS OF AN ORDER
   |
   |
   |
 16
   |
   |
   |
 20
```

The Rules: Expected Screen redisplays with the following message:

TCA4046 - MOVE CURSOR TO NEW LOCATION FOR MOVED FIELD AND PRESS "SELECT" KEY.

5. Position your cursor to the right of the 8 in 98. Press PF9.

```
 --------------------- RULES - EXPECTED SCREEN-------------- 12:00:50
  ENTER COMMAND ===>                                        OUT RECORD:     2
  TCA4045 - MOVE CURSOR TO FIELD TO BE MOVED AND PRESS "SELECT" KEY
     ----+----|----+----|----+----|----+----|----+----|----+----|----+----|----+
  ¦  DATE: 07/10/98 n          CAROL'S COOKIES COMPANY
  ¦  TIME: 14:06:05                     MAIN MENU                 RELEASE   7.0
  ¦
  ¦
  4
  ¦
  ¦
  ¦  ENTER OPTION: __
  8
  ¦         1) PLACE AN ORDER
  ¦
  ¦         2) CHECK STATUS OF AN ORDER
 12
  ¦
  ¦
  ¦
  ¦
```

The Add Rule Actions—Move Field panel displays with the values shown next.

```
-------------------- ADD RULE ACTIONS - MOVE FIELD------------ADD SUCCESSFUL
ENTER COMMAND ===>

RULE NAME: RUL00001         RULESET NAME:    TCADS.CCC.ORDERAPP.002
                            TEST STREAM NAME: TCADS.CCC.ORDERAPP.002

  MOVE FROM/TO:
  ROW COL  LEN   VALUE OR DESCRIPTION
  01  013  002   98
  01  015




  F1-HELP    F2-PREVIEW   F3-END    F4-RETURN    F9-SELECT
```

6.   Press PF3.

     You return to the Add Rules—Rule Actions panel.

Insert the Century Field

Follow these steps:

1.   Insert the two-digit field to accommodate the century: type 7 in the command line and press Enter.

```
----------------------ADD RULES - RULE ACTIONS---------------
 ENTER COMMAND ===> 7

 RULE NAME: RUL00001         RULESET NAME:    TCADS.CCC.ORDERAPP.002
                             TEST STREAM NAME: TCADS.CCC.ORDERAPP.002

DESCRIPTION  ===> RELEASE 6.2 TO 6.3 CHANGES
             ===>
         1  FIELD RECOGNITION              11  GENERATE FIELD VALUE
         2  SCREEN RECOGNITION             12  INSERT SCREENS
         3  VARIABLE FIELD                 13  DELETE SCREENS
         4  DELETE FIELD                   14  CUT SCREEN FIELD
         5  MOVE FIELD                     15  PASTE SCREEN FIELD
         6  CHANGE FIELD VALUE             20  USEID LOGGING
         7  NEW FIELD                      21  TERMINAL ID LOGGING
         8  CHANGE AID KEY                 22  TRANSACTION ID LOGGING
         9  CHANGE CURSOR LOCATION
        10  CHANGE WCC VALUES


  F1-HELP     F2-PREVIEW     F3-END     F4-RETURN     F9-SELECT
```

The Rules: Expected Screen panel opens. Notice that the year field has been moved right two spaces.

2. Position your cursor after the second / to show where you want to insert the field. Press PF9.

```
--------------------- RULES : EXPECTED SCREEN------------- 12:00:50
 ENTER COMMAND ==>                                    OUT RECORD:     2
 TCA4043 - MOVE CURSOR TO NEW FIELD LOCATION AND PRESS "SELECT" KEY
    ----+----|----+----|----+----|----+----|----+----|----+----|----+----|----+
 ¦  DATE: 07/10/n 98          CAROL'S COOKIES COMPANY
 ¦  TIME: 14:06:05                 MAIN MENU              RELEASE   7.0
 ¦
 4
 ¦
 ¦
 ¦  ENTER OPTION: __
 8
 ¦            1) PLACE AN ORDER
 ¦
 ¦            2) CHECK STATUS OF AN ORDER
12
 ¦
 ¦
 ¦
```

The Add Rules Actions—New Field panel opens.

3. Tab to LEN and type 002. Tab to FIELD VALUE and type 19. Press Enter.

```
-----------------------ADD RULE ACTIONS - NEW FIELD-----------------08:28:40
 ENTER COMMAND ==>
 TCA4219 - COMPLETE DATA; THEN PRESS ENTER TO ADD/UPDATE RULE ACTION
 RULE NAME: RUL00001           RULESET NAME: TCADS.CCC.ORDERAPP.002
                               TEST STREAM NAME: TCADS.CCC.ORDERAPP.002

 NEW FIELDS:
 ROW COL  LEN  ATTR FIELD VALUE
 01  013  002  ____ 19_____
                    _____
                    _____



 F1-HELP  F2-PREVIEW  F3-END  F4-RETURN  F9-SELECT
```

The ADD SUCCESSFUL message opens.

4. Press PF3.

   You return to the Add Rules—Rule Actions menu.

Redefine the Date Field as a Variable

Follow these steps:

1. Type 3 on the command line and press Enter.

```
---------------------ADD RULES - RULE ACTIONS---------------
 ENTER COMMAND ===> 3

 RULE NAME: RUL00001          RULESET NAME:    TCADS.CCC.ORDERAPP.002
                              TEST STREAM NAME: TCADS.CCC.ORDERAPP.002


DESCRIPTION  ===> RELEASE 6.2 TO 6.3 CHANGES
          ===>

        1  FIELD RECOGNITION           11  GENERATE FIELD VALUE
        2  SCREEN RECOGNITION          12  INSERT SCREENS
        3  VARIABLE FIELD              13  DELETE SCREENS
        4  DELETE FIELD                14  CUT SCREEN FIELD
        5  MOVE FIELD                  15  PASTE SCREEN FIELD
        6  CHANGE FIELD VALUE          20  USEID LOGGING
        7  NEW FIELD                   21  TERMINAL ID LOGGING
        8  CHANGE AID KEY              22  TRANSACTION ID LOGGING
        9  CHANGE CURSOR LOCATION
       10  CHANGE WCC VALUES



  F1-HELP      F2-PREVIEW      F3-END      F4-RETURN      F9-SELECT
```

The Rules: Expected Screen panel opens. Notice that the year now shows as 1998.

2. Position your cursor on the first digit of the date. Press PF9.

```
--------------------- RULES : EXPECTED SCREEN-------------- 12:00:50
 ENTER COMMAND ===>                                 OUT RECORD:      2
 TCA4041 - MOVE CURSOR TO VARIABLE FIELD AND PRESS "SELECT" KEY
    ----+----|----+----|----+----|----+----|----+----|----+----|----+
 ¦ DATE: 07/10/1998          CAROL'S COOKIES COMPANY
 ¦ TIME: 14:06:05                 MAIN MENU               RELEASE  7.0
 ¦
 4
 ¦
 ¦
 ¦ ENTER OPTION: __
 8
 ¦        1) PLACE AN ORDER
 ¦
 ¦        2) CHECK STATUS OF AN ORDER
12
 ¦
 ¦
 ¦
```

The Add Rule Actions—Variable Field panel displays as shown next.

```
----------------- ADD RULE ACTIONS - VARIABLE FIELD-------------ADD SUCCESSFUL
 ENTER COMMAND ===>

 RULE NAME: RUL00001          RULESET NAME:    TCADS.CCC.ORDERAPP.002
                              TEST STREAM NAME: TCADS.CCC.ORDERAPP.002


 VARIABLES:
   ROW  COL  LEN   VALUE OR DESCRIPTION
   01   007  010   07/10/1998_____
                   _____
                   _____




 F1-HELP  F2-PREVIEW  F3-END  F4-RETURN  F9-SELECT
```

3. Press PF3.

You return to the Add Rules—Rule Actions menu.

Change the Rule's Description

Follow these steps:

1. Tab to the description and type 6.3 over 6.2 and 7.0 over 6.3. Press Enter and then press PF3.

```
----------------------ADD RULES - RULE ACTIONS---------------
 ENTER COMMAND ===> 3

 RULE NAME: RUL00001          RULESET NAME:    TCADS.CCC.ORDERAPP.002
                              TEST STREAM NAME: TCADS.CCC.ORDERAPP.002

DESCRIPTION  ===> RELEASE 6.3 TO 7.0 CHANGES
          ===>
         1  FIELD RECOGNITION           11  GENERATE FIELD VALUE
         2  SCREEN RECOGNITION          12  INSERT SCREENS
         3  VARIABLE FIELD              13  DELETE SCREENS
         4  DELETE FIELD                14  CUT SCREEN FIELD
         5  MOVE FIELD                  15  PASTE SCREEN FIELD
         6  CHANGE FIELD VALUE          20  USEID LOGGING
         7  NEW FIELD                   21  TERMINAL ID LOGGING
         8  CHANGE AID KEY              22  TRANSACTION ID LOGGING
         9  CHANGE CURSOR LOCATION
        10  CHANGE WCC VALUES


 F1-HELP     F2-PREVIEW     F3-END      F4-RETURN      F9-SELECT
```

You return to the Edit Rules—Summary panel shown next. Notice that the rule actions you have just created have been added to the summary.

```
---------------------EDIT RULES - SUMMARY ----------------12:53:26
ENTER COMMAND ==>

RULE NAME: RUL00001              RULESET NAME:     TCADS.CCC.ORDERAPP.002
LINE   1 TO  8 OF  8             TEST STREAM NAME: TCADS.CCC.ORDERAPP.002

S-EDIT   I-INSERT   D-DELETE   R-REPLICATE     P-PREVIEW
  OBJECT      TYPE ROW  COL LEN OP  VALUE FROM MODEL SCREEN/DESCRIPTION
_ RULESET    T/S                    TCADS.CCC.ORDERAPP.002
_  RULE                            RUL00001
_   FLD-RECOG        1   30  23 EQ  CAROL'S COOKIES COMPANY_____
_    MOVED   OUT     1   13   2     98_____
_    NEW     OUT     1   13   2     19_____
_    VARIABLE OUT    1    7  10     07/10/1998_____
_    VARIABLE OUT    2    7   8     14:06:05_____
     CHANGED  OUT    1   72   3     7.0_____




 F1-HELP  FF3-END  F4-RETURN  F7-UP  F8-DOWN
```

Install Release 7.0

After reviewing the new rules you have created, you are ready to install Release 7.0 of Carol's Cookies Company. Since you are still on the Edit Rules—Summary panel, return to the Primary Options menu so you can exit CA Verify for CICS.

Follow these steps:

1. Press PF3 twice.

   You return to the Primary Options menu.

2. Exit CA Verify for CICS so you can install Release 7.0: type x on the command line and press Enter.

   You return to CICS.

3. Install Release 7.0: type install 7.0 on a clear screen under CICS and press Enter.

   Your screen will display the message:

   CAROL'S COOKIES COMPANY ORDER SYSTEM RELEASE 7.0 HAS BEEN INSTALLED

4. Start CA Verify for CICS: clear the screen. Type xtca. Press Enter.

   The Primary Options menu opens.

Run the Test Stream

The rules that you created can now be applied during a test of Release 7.0 of the sample order entry application. Your rules will tell CA Verify for CICS to expect certain differences between the Release 6.3 test stream and the Release 7.0 program. These differences will not be flagged during a test stream run.

To test Release 7.0 with the rules you created, do the following tasks:

1. Start the Run session.

2. Examine and resolve the mismatches during the run.

3. Terminate or continue the run.

Start the Run Session

In this section, you will run test stream version 002 with the updated ruleset version 002 to create test stream version 003.

Follow these steps:

1. Type r and press Enter.

```
 Version 9.0.00---------- CA VERIFY PRIMARY OPTIONS MENU  ----------10:29:28
 ENTER COMMAND ===> r                                         TERM: L9D6CA
                                                              OPER: NGN

     L  LOG A TEST STREAM

     B  BROWSE A TEST STREAM

     R  RUN A TEST STREAM

     E  EDIT A TEST STREAM

     M  MAINTAIN RULES

     I  INQUIRY/TERMINATION OF FUNCTIONS

     U  UTILITIES

     T  TUTORIAL

     X  EXIT
             *** ENTER "KEYS" COMMAND TO SEE PF KEY ASSIGNMENTS ***


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```

CA Verify for CICS displays the Run Options menu.

2. For Application, type ccc. For Member, type orderapp. Type 002 for Version. Type *
   for the new output test stream ddname. Keep the default values for the rest of the
   fields. When you are finished, press Enter.

   Note: Since the value for the Process With Rules field is Y, the run will include the
   test stream rules you have updated.

```
------------------------------ RUN OPTIONS -------------------------12:54:57
ENTER COMMAND ===>

ENTER INPUT TEST STREAM NAME:
  DDNAME      ===> TCADS
  APPLICATION ===> ccc              (LEAVE APPLICATION, MEMBER,
  MEMBER      ===> orderapp          OR VERSION BLANK AND PRESS
  VERSION     ===> 002               ENTER FOR A SELECTION LIST)

 CREATE NEW OUTPUT TEST STREAM:
  DDNAME      ===> *                ("*" USES NEXT AVAILABLE VERSION)
  APPLICATION ===>
  MEMBER      ===>
  VERSION     ===>

PROCESS WITH RULES         ===> Y        (Y/N OR S-SELECT)
COMPARISON TYPE            ===> S        (S-SCREEN, L-LOGICAL, P-PHYSICAL)
RECORD HISTORY             ===> Y        (Y/N)
  REQUIRE SIGNOFF DATA     ===> N        (Y/N)
SIMULATED USER THINK TIME  ===> NONE     (NONE, NNN% OF ORIGINAL, NN SECONDS)
STATUS INTERVAL            ===> 005      (SECONDS)
CANCEL INTERVAL            ===> 001      (MINUTES)
STOP AT MISMATCHES         ===> Y        (Y/N)

F1-HELP        F3-END        F4-RETURN
```

The panel redisplays with the name of the new output test stream filled in with the version as 003. Press Enter to begin the run; the Run Status panel will briefly appear and looks like the following example:

```
------------------------------ RUN STATUS -------------------------11:44:02
                                                                         R3

 INPUT TEST STREAM:      CCC.ORDERAPP.002

 OUTPUT TEST STREAM:     NONE

 RULESET(S):
   TESTSTREAM:  TCADS.CCC.ORDERAPP.003
   APPLICATION: NOT USED
   SYSTEM:      NOT USED

 CURRENTLY PROCESSING RECORD:        1
 TOTAL RECORDS TO BE PROCESSED:      8
 ESTIMATED REMAINING RUN TIME: 00:00:36

 STATUS INTERVAL:  5 SECONDS
 CANCEL INTERVAL:  1 MINUTE

 DESCRIPTION: CAROL'S COOKIES COMPANY DEMO PROGRAM

 F1-HELP        F3-END       ENTER - CONTINUE
```

Note: The Run Status panel opens until a mismatch is found or until the run is complete.

Encounter and Correct the Mismatches

The Run Mismatch Options panel displays whenever a mismatch is found. The first error that stopped this run displays on the bottom of the Run Mismatch Options screen and shows that there is a new field called RUSH? on the Order Status panel.

Follow these steps:

1. Type 1 in the command line and press Enter to display the ruleset summary.

```
-------------------------- RUN MISMATCH OPTIONS --------------------11:38:45
 ENTER COMMAND ===>  1
6

     1  DISPLAY RULESET SUMMARY              6  ACCEPT ORIGINAL OUTPUT
     2  DISPLAY PREVIOUS INPUT               7  ACCEPT CURRENT OUTPUT
     3  DISPLAY NEXT INTPUT                  8  CHANGE NEXT INPUT
     4  SKIP ORIGINAL OUTPUT                 9  INSERT CURRENT OUTPUT AND
NPUT
     5  SKIP ORIGINAL OUTPUT AND NEXT INPUT    10  INSERT CURRENT OUTPUT

INPUT:   TCADS.CCC.ORDERAPP.002       CURRENT RECORD:  2
OUTPUT:  TCADS.CCC.ORDERAPP.003

RULESET: TESTSTREAM:  TCADS.CCC.ORDERAPP.002
         APPLICATION: NOT USED
         SYSTEM:      NOT USED

          TYPE     OPERATION        WCC   CURSOR   SIZE    LENGTH   TERMINAL
EXPECTED: OUTPUT   ERASE/WRITE       C2    7  16   24*80      266   A60L2050
CURRENT:  OUTPUT   ERASE/WRITE       C2    7  16   24*80      268   VV02
FIRST UNEQUAL ROW: 09               UNEQUAL ROWS: 02
               .STATUS:.ON ORDER
               .STATUS:.ON ORDER       .RUSH?:.Y
                                     XXXXXXXXX
 F1-HELP    F2-ROTATE    F3-END    F7-UP    F8-DOWN
```

The Applied Rules panel opens as shown next.

```
--------------------------- APPLIED RULES ----------------------09:52:25
 ENTER COMMAND ===>

 INPUT TEST STREAM: TCADS.CCC.ORDERAPP.002           CURRENT RECORD:  6
                                                     LINE   1 TO  8 OF  8

 B-BROWSE    E-EDIT
   OBJECT      TYPE ROW  COL LEN OP  VALUE FROM THE MODEL SCREEN/DESCRIPTION
 _ RULESET     T/S                   TCADS.CCC.ORDERAPP.002
 _  RULE                             RUL00001                    <APPLIED>
 _   FLD-RECOG       1  30  23 EQ  CAROL'S COOKIES COMPANY      <RECOGNIZED>
 _    MOVED    OUT   1  13   2     98                            <APPLIED>
 _    NEW      OUT   1  13   2     19                            <APPLIED>
 _    VARIABLE OUT   1   7  10     07/10/1998                    <APPLIED>
 _    VARIABLE OUT   2   7   8     14:06:05                      <APPLIED>
 _    CHANGED  OUT   1  72   3     7.0                           <APPLIED>


  F1-HELP     F2-ROTATE     F3-END     F4-RETURN     F7-UP    F8-DOWN
```

The Applied Rules panel lists all of the rulesets that you requested to be included in this run: test stream, application, and system. From this display, you can see that all identification criteria were recognized and the field changes defined to the rules were applied.

2. Press PF2 to rotate the display to Expected, which consists of the originally logged test stream record with the rules applied.

3. Press PF2 again to see the current view of the test stream record.

4. When you are finished, press PF3.

   You return to the Applied Rules panel. Now you will create a rule to add the new field.

Create a New Rule

To create the rule to add a new field, follow these tasks:

1. Indicate the ruleset to be edited.

2. Insert and name the rule.

3. Set up recognition criteria.

4. Add the rule actions.

Indicate the Ruleset to be Edited

Since you may use up to three rulesets during a run (test stream, application, and system), you must indicate which ruleset you want to edit.

Follow these steps:

1. Tab to RULESET and type E. Press Enter.

```
---------------------------- APPLIED RULES ----------------------09:52:25
ENTER COMMAND ===>

INPUT TEST STREAM: TCADS.CCC.ORDERAPP.002              CURRENT RECORD:  6
                                                       LINE   1 TO  8 OF  8


B-BROWSE    E-EDIT
  OBJECT       TYPE ROW  COL LEN OP  VALUE FROM THE MODEL SCREEN/DESCRIPTION
_ RULESET      T/S                   TCADS.CCC.ORDERAPP.002
_  RULE                              RUL00001                     <APPLIED>
_   FLD-RECOG      1   30  23 EQ  CAROL'S COOKIES COMPANY      <RECOGNIZED>
_    MOVED    OUT   1   13   2     98                             <APPLIED>
_    NEW      OUT   1   13   2     19                             <APPLIED>
_    VARIABLE OUT   1    7  10     07/10/1998                     <APPLIED>
_    VARIABLE OUT   2    7   8     14:06:05                       <APPLIED>
_    CHANGED  OUT   1   72   3     7.0                            <APPLIED>



 F1-HELP     F2-ROTATE     F3-END     F4-RETURN     F7-UP     F8-DOWN

The Edit Rules—Summary panel opens.
```

Insert and Name the Rule

Insert and name the rule to handle the changes to the Order Status panel.

Follow these steps:

1. Tab to RULE and type I. Press Enter.

```
----------------------EDIT RULES - SUMMARY ----------------12:53:26
ENTER COMMAND ===>

RULE NAME: RUL00001           RULESET NAME:     TCADS.CCC.ORDERAPP.002
LINE   1 TO  8 OF  8          TEST STREAM NAME:  TCADS.CCC.ORDERAPP.002


S-EDIT   I-INSERT   D-DELETE   R-REPLICATE    P-PREVIEW
  OBJECT       TYPE ROW  COL LEN OP  VALUE FROM MODEL SCREEN/DESCRIPTION
_ RULESET      T/S                   TCADS.CCC.ORDERAPP.002
i  RULE                              RUL00001
_   FLD-RECOG       1   30  23 EQ  CAROL'S COOKIES COMPANY_____
_    MOVED    OUT   1   13   2       98_____
_    NEW      OUT   1   13   2       19_____
_    VARIABLE OUT   1    7  10       07/10/1998_____
_    VARIABLE OUT   2    7   8       14:06:05_____
_    CHANGED  OUT   1   72   3       7.0_____




 F1-HELP  FF3-END  F4-RETURN  F7-UP  F8-DOWN
```

The Add Rules—Rule Actions panel displays.

2. Accept the system-generated rule name of RUL00002. Tab to DESCRIPTION and type add rush field to order status panel. Press Enter.

```
---------------------ADD RULES - RULE ACTIONS---------------
 ENTER COMMAND ===>

RULE NAME: RUL00002              RULESET NAME:    TCADS.CCC.ORDERAPP.002
                                 TEST STREAM NAME: TCADS.CCC.ORDERAPP.002

DESCRIPTION  ===> add rush field to order status panel
            ===>

        1  FIELD RECOGNITION              11  GENERATE FIELD VALUE
        2  SCREEN RECOGNITION             12  INSERT SCREENS
        3  VARIABLE FIELD                 13  DELETE SCREENS
        4  DELETE FIELD                   14  CUT SCREEN FIELD
        5  MOVE FIELD                     15  PASTE SCREEN FIELD
        6  CHANGE FIELD VALUE             20  USEID LOGGING
        7  NEW FIELD                      21  TERMINAL ID LOGGING
        8  CHANGE AID KEY                 22  TRANSACTION ID LOGGING
        9  CHANGE CURSOR LOCATION
       10  CHANGE WCC VALUES



  F1-HELP      F2-PREVIEW      F3-END      F4-RETURN      F9-SELECT
```

The Add Rules—Rule Actions panel redisplays with this message:

TCA5155 - RULE IS NOT YET COMPLETE--MUST ADD RULE ACTION.

Set Up Recognition Criteria

Since you have named the rule and given it a description, you must set up recognition criteria identifying which screen this rule applies to.

Follow these steps:

1. Type 1 in the command line. Press Enter.

```
----------------------ADD RULES - RULE ACTIONS---------------
 ENTER COMMAND ===> 1

RULE NAME: RUL00002            RULESET NAME:     TCADS.CCC.ORDERAPP.002
                               TEST STREAM NAME: TCADS.CCC.ORDERAPP.002
TCA5155 - RULE IS NOT YET COMPLETE--MUST ADD RULE ACTION
DESCRIPTION  ===> ADD RUSH FIELD TO ORDER STATUS PANEL
            ===>

      1  FIELD RECOGNITION              11   GENERATE FIELD VALUE
      2  SCREEN RECOGNITION             12   INSERT SCREENS
      3  VARIABLE FIELD                 13   DELETE SCREENS
      4  DELETE FIELD                   14   CUT SCREEN FIELD
      5  MOVE FIELD                     15   PASTE SCREEN FIELD
      6  CHANGE FIELD VALUE             20   USEID LOGGING
      7  NEW FIELD                      21   TERMINAL ID LOGGING
      8  CHANGE AID KEY                 22   TRANSACTION ID LOGGING
      9  CHANGE CURSOR LOCATION
     10  CHANGE WCC VALUES



   F1-HELP      F2-PREVIEW      F3-END      F4-RETURN      F9-SELECT
```

The Run: Expected Screen opens.

2. Select a model screen. Move the cursor to the O of ORDER STATUS. Press PF9.

```
          ----------- RUN: EXPECTED SCREEN  ----------------------------
  ENTER COMMAND ===>                                     OUT RECORD:      6
  TCA4049 - MOVE CURSOR TO IDENTIFICATION CRITERIA FIELD; PRESS "SELECT" KEY
     ----+----|----+----|----+----|----+----|----+----|----+----|----+
   | DATE 07/10/1998              CAROL'S COOKIES COMPANY           RELEASE 7.0
   | TIME 14:06:05                      ORDER STATUS
   |
   4
   |
   |
   |                    CUSTOMER NAME: JOHN SMITH
   8
   |                    STATUS: ON ORDER
   |
   |
  12                    ITEM # DESCRIPTION  QUANTITY    PRICE   AMOUNT
   |                     137   CHOC CHIP     1 DZ        5.00    5.00
   |                     474   OATMEAL RSN   2 DZ        5.00    10.00
   |
  16                    SUBTOTAL:             15.00
   |                    TAX:                    .90
   |                    SHIPPING & HANDLING:   2.00
   |
  20                    TOTAL:                17.90
```

The Add Rule Actions—Recognition Criteria panel displays containing the ADD SUCCESSFUL message. This panel is shown following.

```
  -------------------ADD RULE  ACTIONS - RECOGNITION CRITERIA-------ADD SUCCESSFUL
    ENTER COMMAND ===>

  RULE NAME: RUL00002           RULESET NAME:    TCADS.CCC.ORDERAPP.002
                                TEST STREAM NAME: TCADS.CCC.ORDERAPP.002


   ROW COL  LEN  OPER VALUE
   02  035  012  EQ   ORDER STATUS_____
                      _____
                      _____




    F1-HELP      F2-PREVIEW      F3-END    F4-RETURN      F9-SELECT
```

3. Press PF3.

You return to the Add Rules—Rule Actions menu.

Add the New Fields

To add the new RUSH? field, you must add one field for RUSH? and one field for its value.

Follow these steps:

1. Type 7 on the command line and press Enter.

```
----------------------ADD RULES - RULE ACTIONS---------------
 ENTER COMMAND ==> 7
TCA5155 - RULE IS NOT YET COMPLETE--MUST ADD RULE ACTION

RULE NAME: RUL00002         RULESET NAME:     TCADS.CCC.ORDERAPP.002
                            TEST STREAM NAME: TCADS.CCC.ORDERAPP.002
DESCRIPTION  ==> ADD RUSH FIELD TO ORDER STATUS PANEL
          ==>

      1  FIELD RECOGNITION           11  GENERATE FIELD VALUE
      2  SCREEN RECOGNITION          12  INSERT SCREENS
      3  VARIABLE FIELD              13  DELETE SCREENS
      4  DELETE FIELD                14  CUT SCREEN FIELD
      5  MOVE FIELD                  15  PASTE SCREEN FIELD
      6  CHANGE FIELD VALUE          20  USEID LOGGING
      7  NEW FIELD                   21  TERMINAL ID LOGGING
      8  CHANGE AID KEY              22  TRANSACTION ID LOGGING
      9  CHANGE CURSOR LOCATION
     10  CHANGE WCC VALUES



   F1-HELP      F2-PREVIEW      F3-END      F4-RETURN      F9-SELECT
```

The modified screen containing the Order Status panel opens.

2. Display the current screen containing the new field.Press PF2.

The current screen containing the RUSH? field opens.

3. Indicate the field to be added: position your cursor on the R of RUSH?. Press PF9.

```
CCC.ORDERAPP.002 ----------  RUN: CURRENT SCREEN  ----------------------------
ENTER COMMAND ===>                                      OUT RECORD:       6
TCA4043 - MOVE CURSOR TO NEW FIELD LOCATION AND PRESS "SELECT" KEY
   ----+----|----+----|----+----|----+----|----+----|----+----|----+----|----+
  | DATE 07/10/1998                CAROL'S COOKIES COMPANY            RELEASE 7.0
  | TIME 14:06:05                      ORDER STATUS
  |
 4
  |
  |
  |              CUSTOMER NAME: JOHN SMITH
 8
  |              STATUS: ON ORDER                  RUSH?: Y
  |
  |
12              ITEM # DESCRIPTION  QUANTITY    PRICE   AMOUNT
  |               137   CHOC CHIP     1 DZ       5.00     5.00
  |               474   OATMEAL RSN   2 DZ       5.00    10.00
  |
16              SUBTOTAL:               15.00
  |              TAX:                      .90
  |              SHIPPING & HANDLING:     2.00
  |
20              TOTAL:                  19.90
```

The Add Rule Actions—New Field panel displays with the message: ADD SUCCESSFUL. A sample screen is shown following.

```
----------------------- ADD RULE ACTIONS - NEW FIELD-------------ADD SUCCESSFUL
  ENTER COMMAND ===>

 RULE NAME: RUL00002          RULESET NAME:    TCADS.CCC.ORDERAPP.002
                              TEST STREAM NAME: TCADS.CCC.ORDERAPP.002

 NEW FIELDS:
 ROW COL  LEN  ATTR FIELD VALUE
 09  049  005   PSH RUSH?:_____
                    _____
                    _____




 F1-HELP  F2-PREVIEW  F3-END  F4-RETURN  F9-SELECT
```

4. Press PF3.

You return to the Add Rules—Rule Actions menu.

5. Add the field for the RUSH? Value: type 7 on the command line and press Enter.

```
----------------------ADD RULES - RULE ACTIONS---------------
 ENTER COMMAND ===> 7
TCA5155 - RULE IS NOT YET COMPLETE--MUST ADD RULE ACTION


RULE NAME: RUL00002           RULESET NAME:    TCADS.CCC.ORDERAPP.002
                              TEST STREAM NAME: TCADS.CCC.ORDERAPP.002
DESCRIPTION  ===> ADD RUSH FIELD TO ORDER STATUS PANEL
            ===>

        1  FIELD RECOGNITION            11  GENERATE FIELD VALUE
        2  SCREEN RECOGNITION           12  INSERT SCREENS
        3  VARIABLE FIELD               13  DELETE SCREENS
        4  DELETE FIELD                 14  CUT SCREEN FIELD
        5  MOVE FIELD                   15  PASTE SCREEN FIELD
        6  CHANGE FIELD VALUE           20  USEID LOGGING
        7  NEW FIELD                    21  TERMINAL ID LOGGING
        8  CHANGE AID KEY               22  TRANSACTION ID LOGGING
        9  CHANGE CURSOR LOCATION
       10  CHANGE WCC VALUES



 F1-HELP      F2-PREVIEW       F3-END        F4-RETURN       F9-SELECT
```

The Run: Expected Screen opens.

6. Rotate to the current screen: press PF2.

    The Run: Current Screen displays.

7. Put your cursor on the Y after RUSH?. Press PF9.

```
CCC.ORDERAPP.002 ----------- RUN: CURRENT SCREEN -----------------------------
ENTER COMMAND ===>                                        OUT RECORD:     6
TCA4043 - MOVE CURSOR TO NEW FIELD LOCATION AND PRESS "SELECT" KEY
   ----+----|----+----|----+----|----+----|----+----|----+----|----+----|----+
  | DATE 07/10/1998          CAROL'S COOKIES COMPANY        RELEASE 7.0
  | TIME 14:06:05                  ORDER STATUS
  |
 4
  |
  |
  |               CUSTOMER NAME: JOHN SMITH
 8
  |               STATUS: ON ORDER              RUSH?: Y
  |
  |
12                ITEM # DESCRIPTION  QUANTITY    PRICE   AMOUNT
  |                137   CHOC CHIP      1 DZ      5.00     5.00
  |                474   OATMEAL RSN    2 DZ      5.00    10.00
  |
16                SUBTOTAL:              15.00
  |               TAX:                     .90
  |               SHIPPING & HANDLING:    2.00
  |
20                TOTAL:                 19.90
```

The Add Rule Actions—New Field panel displays containing the message: ADD SUCCESSFUL. A sample panel is shown following.

```
----------------------ADD RULE ACTIONS - NEW FIELD-----------ADD SUCCESSFUL
 ENTER COMMAND ===>

RULE NAME: RUL00002              RULESET NAME:    TCADS.CCC.ORDERAPP.002
                                 TEST STREAM NAME: TCADS.CCC.ORDERAPP.002

 NEW FIELDS:
 ROW COL  LEN  ATTR FIELD VALUE
 09  055  001   PSM Y_____
                    _____
                    _____




 F1-HELP  F2-PREVIEW  F3-END  F4-RETURN  F9-SELECT
```

8. Press PF3 three times.

    You return to the Applied Rules panel as shown following.

```
---------------------------- APPLIED RULES -------------------------09:52:25
 ENTER COMMAND ===>

 INPUT TEST STREAM: TCADS.CCC.ORDERAPP.002            CURRENT RECORD:  6
                                                      LINE   1 TO  12 OF  12

 B-BROWSE    E-EDIT
   OBJECT      TYPE ROW  COL LEN OP  VALUE FROM THE MODEL SCREEN/DESCRIPTION
 _ RULESET     T/S                   TCADS.CCC.ORDERAPP.002
 _  RULE                             RUL00001                      <APPLIED>
 _   FLD-RECOG       1   30  23 EQ  CAROL'S COOKIES COMPANY      <RECOGNIZED>
 _    MOVED    OUT   1   13   2      98                            <APPLIED>
 _    NEW      OUT   1   13   2      19                            <APPLIED>
 _    VARIABLE OUT   1    7  10      07/10/1998                    <APPLIED>
 _    VARIABLE OUT   2    7   8      14:06:05                      <APPLIED>
 _    CHANGED  OUT   1   72   3      7.0                           <APPLIED>
 _  RULE                             RUL00002                      <APPLIED>
 _   FLD-RECOG       2   35  12 EQ  ORDER STATUS                 <RECOGNIZED>
 _    NEW      OUT   9   49   6      RUSH?                         <APPLIED>
 _    NEW      OUT   9   56   1      Y                             <APPLIED>



  F1-HELP      F2-ROTATE     F3-END     F4-RETURN     F7-UP     F8-DOWN
```

Notice that the identification criteria for the rule you just created has been recognized, and all of the rule actions have been applied.

9. Press PF3.

You return to the Run Mismatch Options panel shown following. Notice that another mismatch has been found. The Total field, which shows the total value of John Smith's cookie order, has changed from 17.90 in the Release 6.3 test stream to 19.90 in the Release 7.0 run. This is not an expected screen change and indicates a programming error in the new release.

```
-------------------------- RUN MISMATCH OPTIONS -------------------11:38:45
  ENTER COMMAND ==> 1
6

     1 DISPLAY RULESET SUMMARY               6 ACCEPT ORIGINAL OUTPUT
     2 DISPLAY PREVIOUS INPUT                7 ACCEPT CURRENT OUTPUT
     3 DISPLAY NEXT INTPUT                   8 CHANGE NEXT INPUT
     4 SKIP ORIGINAL OUTPUT                  9 INSERT CURRENT OUTPUT AND
NPUT
     5 SKIP ORIGINAL OUTPUT AND NEXT INPUT  10 INSERT CURRENT OUTPUT

INPUT:    TCADS.CCC.ORDERAPP.002       CURRENT RECORD:  6
OUTPUT:   TCADS.CCC.ORDERAPP.003

RULESET: TESTSTREAM:  TCADS.CCC.ORDERAPP.001
         APPLICATION: NOT USED
         SYSTEM:      NOT USED

            TYPE     OPERATION     WCC   CURSOR   SIZE    LENGTH   TERMINAL
EXPECTED: OUTPUT    ERASE/WRITE    C2    1   1    24*80      471   A60L2050
CURRENT:  OUTPUT    ERASE/WRITE    C2    1   1    24*80      471   VV02
ONLY UNEQUAL ROW:  20
               .TOTAL:             . 17.90
               .TOTAL:             . 19.90
                                     X
F1-HELP    F2-ROTATE    F3-END    F7-UP    F8-DOWN
```

Terminate the Run

CA Verify for CICS uncovered an error in the Release 7.0 program. You will terminate this run and test Release 7.0 FIX to check that this error has been resolved.

Follow these steps:

1. Press PF3 to view termination options.

   The Run Termination screen opens.

2. Type 2 on the command line. Press Enter. Press PF3 to return to the Primary Options Menu.

```
----------------------------  RUN TERMINATION  ---------------11:35:49
ENTER COMMAND ===> 2                                          RX

   1  END RUN, SAVE OUTPUT TEST STREAM

   2  CANCEL RUN, DO NOT SAVE OUTPUT TEST STREAM

INPUT TEST STREAM:
  TCADS.CCC.ORDERAPP.00 2

OUTPUT TEST STREAM:
  TCADS.CCC.ORDERAPP.003

RULESET(S) IN USE:
  TESTSTREAM:  TCADS.CCC.ORDERAPP.00 2
  APPLICATION: NOT USED
  SYSTEM:      NOT USED


CURRENTLY PROCESSING RECORD: 6



F1-HELP        F3-END
```

The run will be terminated. The Primary Options menu opens.

3. You need to exit CA Verify for CICS before testing Release 7.0 FIX: Select option x from the Primary Options Menu, and press Enter.

```
Version 9.0.00 -------  CA VERIFY PRIMARY OPTIONS MENU  ----------------13:44:59
ENTER COMMAND ===> x                                          TERM:
60L2050
                                                              OPER:

   L  LOG A TEST STREAM

   B  BROWSE A TEST STREAM

   R  RUN A TEST STREAM

   E  EDIT A TEST STREAM

   M  MAINTAIN RULES

   I  INQUIRY/TERMINATION OF FUNCTIONS

   U  UTILITIES

   T  TUTORIAL

   X  EXIT
          *** ENTER "KEYS" COMMAND TO SEE PF KEY ASSIGNMENTS ***


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```

You will exit CA Verify for CICS.

Install Release 7.0 Fix

Follow these steps:

1. Type install 7.0 fix on a clear screen.

```
install 7.0 fix
```

This message displays:

> APPLIED 7.0 FIX

Rerun the Test Stream

The fix has now been installed to correct the bug that you found. Run the test stream again to make sure that the problem has been solved.

To run the test stream, complete the following tasks:

1. Invoke CA Verify for CICS.

2. Select the Run function from the Primary Options Menu.

3. Specify options for this run session and activate the run.

4. Review the Run Statistics.

Invoke CA Verify for CICS

Follow these steps:

1. Clear your screen. Type xtca and press Enter.

   CA Verify for CICS displays the Primary Options menu.

Select the Run Function

Follow these steps:

1. Type r in the command line and press Enter.

```
 Version 9.0.00 -------  CA VERIFY PRIMARY OPTIONS MENU  ----------------13:44:59
  ENTER COMMAND ===>  r                                           TERM:
60L2050
                                                                  OPER:

    L  LOG A TEST STREAM

    B  BROWSE A TEST STREAM

    R  RUN A TEST STREAM

    E  EDIT A TEST STREAM

    M  MAINTAIN RULES

    I  INQUIRY/TERMINATION OF FUNCTIONS

    U  UTILITIES

    T  TUTORIAL

    X  EXIT
          *** ENTER "KEYS" COMMAND TO SEE PF KEY ASSIGNMENTS ***

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```

The Run Options menu displays.

Specify Run Options and Activate the Run

Follow these steps:

1. For Application, type ccc. For Member, type orderapp. Type * in the ddname field to have CA Verify for CICS generate a name for the new output test stream. Press Enter.

```
------------------------------ RUN OPTIONS ------------------------12:54:57
ENTER COMMAND ===>

ENTER INPUT TEST STREAM NAME:
  DDNAME       ===> TCADS
  APPLICATION ===> ccc                (LEAVE APPLICATION, MEMBER,
  MEMBER       ===> orderapp           OR VERSION BLANK AND PRESS
  VERSION      ===> 002                ENTER FOR A SELECTION LIST)

 CREATE NEW OUTPUT TEST STREAM:
  DDNAME       ===>                    ("*" USES NEXT AVAILABLE VERSION)
  APPLICATION ===>
  MEMBER       ===>
  VERSION      ===>

PROCESS WITH RULES          ===> Y       (Y/N OR S-SELECT)
COMPARISON TYPE             ===> S       (S-SCREEN, L-LOGICAL, P-PHYSICAL)
RECORD HISTORY              ===> Y       (Y/N)
  REQUIRE SIGNOFF DATA      ===> N       (Y/N)
SIMULATED USER THINK TIME  ===> NONE    (NONE, NNN% OF ORIGINAL, NN SECONDS)
STATUS INTERVAL            ===> 005     (SECONDS)
CANCEL INTERVAL            ===> 001     (MINUTES)
STOP AT MISMATCHES         ===> Y       (Y/N)

F1-HELP        F3-END        F4-RETURN
```

The panel redisplays with the name of the new output test stream filled in with the version as 003.

2. Press Enter to begin the run; the Run Status panel opens.

```
------------------------------  RUN STATUS  -------------------------11:44:02
                                                                         R3

 INPUT TEST STREAM:      TCADS.CCC.ORDERAPP.002

 OUTPUT TEST STREAM:     TCADS.CCC.ORDERAPP.003

 RULESET(S):
   TESTSTREAM:  TCADS.CCC.ORDERAPP.002
   APPLICATION: NOT USED
   SYSTEM:      NOT USED

 CURRENTLY PROCESSING RECORD:        1
 TOTAL RECORDS TO BE PROCESSED:      12
 ESTIMATED REMAINING RUN TIME:  00:00:36

 STATUS INTERVAL:  5 SECONDS
 CANCEL INTERVAL:  1 MINUTE

 DESCRIPTION: CAROL'S COOKIES COMPANY DEMO PROGRAM

 F1-HELP     F3-END     ENTER-CONTINUE
```

Review the Run Statistics

The Run Completion panel provides information on the run that has just completed.

```
CCC.ORDERAPP.00 2 -----------  RUN COMPLETION  ----------------------13:02:28
 ENTER COMMAND ===>                                                       R8

 OUTPUT SCREENS COMPARED:        6
 PHYSICALLY EQUAL SCREENS:       1
 LOGICALLY EQUAL SCREENS:        6

 OUTPUT TEST STREAM: TCADS.CCC.ORDERAPP.003

 RULESET(S) USED:
   TESTSTREAM:   TCADS. CCC.ORDERAPP.002
   APPLICATION: NOT USED
   SYSTEM:      NOT USE


                         IN:        OUT:
 EQUAL:                   6          1
 EQUIVALENT:                         5
 IGNORED:                            0
 ACCEPTED:                           0
 INSERTED:                0          0
 DELETED:                 0          0
 CHANGED:                 0
 NOT RUN:                 0          0


  F1-HELP  F3-END   F4-RETURN
```

By completing the instructions in this Primer, you should have a basic understanding of the Rules function and how it works. You can now exit from CA Verify for CICS or use the test streams you have created to learn more about the Rules function. For in-depth information about this function, be sure to read the Rules Function chapter in the User Guide.

Appendix A: Sample Application Screens

This section contains the following topics:

Carol's Cookies Company Release 6.3 Screens

```
DATE: 07/10/98              CAROL'S COOKIES COMPANY              RELEASE 6.3
TIME: 14:06:05                    MAIN MENU


ENTER OPTION:


        1) PLACE AN ORDER

        2) CHECK STATUS OF AN ORDER
```

```
DATE 07/10/98              CAROL'S COOKIES COMPANY         RELEASE 6.3
TIME 14:06:05             ORDER STATUS SELECTION




        CUSTOMER NAME      ORDER NUMBER   STATUS      AMOUNT

    _ JOHN SMITH           100-120-15     ON ORDER     17.90
    _ BILL JONES           100-205-12     SHIPPED      22.67
    _ SUE WILLIAMS         100-271-15     ON ORDER     34.30
```

```
DATE 07/10/98              CAROL'S COOKIES COMPANY           RELEASE 6.3
TIME 14:06:05                   ORDER STATUS



          CUSTOMER NAME: JOHN SMITH

          STATUS: O N ORDER


          ITEM # DESCRIPTION  QUANTITY    PRICE   AMOUNT
           137   CHOC CHIP     1 DZ       5.00     5.00
           474   OATMEAL RSN   2 DZ       5.00    10.00

          SUBTOTAL:               15.00
          TAX:                      .90
          SHIPPING & HANDLING:     2.00

          TOTAL:                 17.90
```

Carol's Cookies Company Release 7.0 Screens

```
DATE 07/11/1998              CAROL'S COOKIES COMPANY              RELEASE 7.0
TIME 14:06:05                      MAIN MENU


 ENTER OPTION:   2


        1) PLACE AN ORDER

        2) CHECK STATUS OF AN ORDER
```

```
DATE 07/11/1998              CAROL'S COOKIES COMPANY         RELEASE 7.0
TIME 14:06:05                ORDER STATUS SELECTION




        CUSTOMER NAME       ORDER NUMBER   STATUS      AMOUNT

    _   JOHN SMITH          100-120-15     ON ORDER     17.90
    _   BILL JONES          100-205-12     SHIPPED      22.67
    _   SUE WILLIAMS        100-271-15     ON ORDER     34.30
```

```
DATE 07/11/1998              CAROL'S COOKIES COMPANY           RELEASE 7.0
TIME 14:06:05                     ORDER STATUS



           CUSTOMER NAME: JOHN SMITH

           STATUS: O N ORDER             RUSH? Y


           ITEM # DESCRIPTION  QUANTITY    PRICE    AMOUNT
            137    CHOC CHIP     1 DZ      5.00      5.00
            474    OATMEAL RSN   2 DZ      5.00     10.00

           SUBTOTAL:                15.00
           TAX:                       .90
           SHIPPING & HANDLING:      2.00

           TOTAL:                   17.90
```

Glossary

Application Ruleset

A set of rules which apply to every test stream on the TCADS file that contain the same application name. Each application ruleset has the special name of: TCADS.xxxxxxxx.#RULESET.001, where xxxxxxxx is the matching application name node.

Input Logical Screen

The Output Logical Screen which has been filled in with data , that is, keystrokes.

Logical Screen

A collection of test stream records (each reflecting a physical I/O) that together form the screen image as seen by the end user. There are two kinds of screen images - Output Logical Screen and Input Logical Screen.

Model Screen

A view of what the Logical Screen looks like before applying any of the specified changes.

Expected Screen

A view of what the Logical Screen would look like if all of the changes that have been specified were applied.

Output Logical Screen

The compilation of all the application sends to a terminal which, together, make up the screen image as seen by the user.

Recognition Criteria

Information that tells CA Verify for CICS how to recognize a Logical Screen in order to make changes to it. The Recognition Criteria may be by field or by screen.

Rule

A set of criteria telling CA Verify for CICS which application screens need to be modified, and how to do the modifications. Can be applied during a run (run rules) or while logging (logging rules).

Ruleset

A set of rules that apply to a given test stream.

System Ruleset

A set of rules that apply to every test stream on a specific TCADS file. It has the special name of: TCADS.SYSTEM.#RULESET.001

Test Stream Ruleset

A set of rules whose name matches that of a test stream. Every time a test stream is run, CA Verify for CICS looks for a matching ruleset name and applies it if found.

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