NonStop NET/MASTER Tips and Techniques

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Introduction

This is an ongoing column with NonStop NET/MASTER tips and techniques. Each column is also accessible from http://www.greshamsoftwarelabs.com.au/ (Gresham Software Labs). Please send all comments and suggestions to John New at jnew@greshamsoftwarelabs.com.au.

Biography

John New is a technical writer. He has written and updated various Tandem manuals. He currently writes hard-copy, online, and web documents for a variety of software products.

Customizing the NonStop NET/MASTER User Interface

This article discusses how to customize the NonStop NET/MASTER user interface. It discusses some NonStop NET/MASTER commands used to customize the interface. It discusses how to modify parts of the NonStop NET/MASTER source code to customize the interface.

Using Commands to Customize the User Interface

Various commands are available to customize the standard NonStop NET/MASTER user interface. You can enter these commands from Operator Control Services (OCS) or an NCL procedure.

The LBANNER and LTITLE commands affect the appearance of the NonStop NET/MASTER logon screen:

LTITLE   Sets or erases the NonStop NET/MASTER logon screen title. The title is displayed on the second line of the logon screen. This command is useful when more than one NonStop NET/MASTER system is available; it helps to identify the system to which a user is logging on.

LBANNER   Sets or erases a NonStop NET/MASTER logon screen banner line. Sixteen lines are available (below the title) for a banner. This command is designed to replace the default banner with a customized banner or with messages that users should read before they log on.

The OCSID, PROFILE, and TITLE commands affect the appearance of OCS windows:

OCSID   Sets or erases an OCS window identifier. The one- through eight-character identifier is displayed in the bottom right corner of the current window. This command is intended for users who frequently swap between OCS windows.

PROFILE   Modifies or displays your current OCS profile. This command has many operands, and OCS operators can use this command to change many aspects of their OCS profile including the appearance of their OCS windows.

TITLE   Sets or erases the title displayed at the top line of all OCS windows.

Modifying Source Code to Customize the User Interface

Most of the NonStop NET/MASTER user interface consists of panels that are displayed by NCL procedures. Panels are formatted screen displays that present information to users (for example, a series of menu options) and obtain information from users (for example, a specific menu option that a user types in from a keyboard).

Four NCL procedures (INIT, READY, ZHWKMMNN, and ZHWKMTBN) and one panel (ZHWKMMNP) are distributed as source code and are, therefore, readily available for you to modify. All other panels and NCL procedures are distributed as precompiled object code.

The source code for precompiled panels and NCL procedures is available from Compaq on request. To obtain the source code, contact your Compaq account representative and request the source code. After you obtain the source code, you can modify the code to tailor much of the NonStop NET/MASTER user interface as you wish.

Two simple examples will show how you can modify the source code. Both examples modify source code used by User ID Management Services (UMS). The first example shows how to bypass the UMS : User Installation Attributes panel. The second example shows how to add a hit counter to the User ID Management Services : Primary Menu.

Bypassing the UMS : User Installation Attributes Panel

Five UMS panels are available for adding, copying, and browsing user ID definition records. You move forward and backward through the sequence of panels using the PageDown and PageUp keys. By default, NonStop NET/MASTER does not allow you to bypass panels in the sequence. However many organizations do not use the UMS : User Installation Attributes panel (Panel 4), therefore some organizations may find it convenient to always bypass Panel 4.

You can bypass the UMS : User Installation Attributes panel by modifying the source code of the NCL procedure called ZUMSADDN.

The following code segment from ZUMSADDN (before it is modified) controls movement forward and backward through the five UMS panels:

```
                    IF &pgno = &pgmax THEN
                        GOSUB invalid_key
                    ELSE IF ( &pgno = 4 ) AND,
                            ( &poc  = N ) THEN
                        &sysmsg =,
                            "NNM0785 NO ACCESS TO NEXT PAGE"
                    ELSE
                            &pgno = &pgno + 1
                END
            ELSE IF &inkey == PF07 THEN
                IF &pgno = 1 THEN
                    GOSUB invalid_key
                ELSE
                        &pgno = &pgno - 1
        END
END / End F3/F7/F8/Enter 'WHEN' */
```

The following code segment shows how to modify ZUMSADDN to control movement forward and backward through four UMS panels and bypass Panel 4 (changes are in **bold type**):

```
                    IF &pgno = &pgmax THEN
                        GOSUB invalid_key
                    ELSE IF ( &pgno = 3 ) AND,
                            ( &poc  = N ) THEN
                        &sysmsg =,
                            "NNM0785 NO ACCESS TO NEXT PAGE"
                    ELSE
                    DO
                        &pgno = &pgno + 1
                        if &pgno = 4 then &pgno = 5
                    END
                END
            ELSE IF &inkey == PF07 THEN
                IF &pgno = 1 THEN
                    GOSUB invalid_key
                ELSE
                    DO
                        &pgno = &pgno - 1
                        if &pgno = 4 then &pgno = 3
                    END
        END
END /* End F3/F7/F8/Enter 'WHEN' */
```

Displaying a Hit Counter on the UMS : Primary Menu Panel

The User ID Management Services : Primary Menu panel displays options for managing user ID definition records. For security reasons, some NonStop NET/MASTER security administrators may be interested in knowing the number of times users have entered UMS to access this panel since NonStop NET/MASTER startup.

You can automatically keep track of UMS access by modifying the source code of the NCL procedure called ZUMSMAIN to maintain a hit counter. This NCL procedure is run whenever a user enters UMS because it displays the UMS : Primary Menu panel, called ZUMSMN1P. Additionally, you may want to display the hit counter on the UMS : Primary Menu panel. You can do this by modifying the source code of ZUMSMN1P to display the hit counter.

The following code segment from ZUMSMAIN (before it is modified) determines the value of some variables that are displayed by ZUMSMN1P.

```
display:
DO FOREVER

    REVERT PANEL_RETURN
    REVERT PANEL_END

    IF &sysmsg \= "" THEN
        &ALRM = YES
    ELSE
        &ALRM = NO
    if &pnl_input = yes then
        &s =
    &pdid = &sys.nm.id
    &pownuid = &sys.user.id
    &ploginame = &sys.term.name
    &ptime = TIME()
    &pdate = DATE( 2 )
    &ptname = &SYS.TERM.NAME
    &zpmenu = GMENU
```

The following code segment shows how to modify ZUMSMAIN to add a global variable that increments a hit counter (changes are in **bold type**):

```
/* Use a global variable to increment hits */
IF &GLBLUMSMAINHITS = '' THEN
   &GLBLUMSMAINHITS = 0
&GLBLUMSMAINHITS = &GLBLUMSMAINHITS + 1

display:
DO FOREVER

    REVERT PANEL_RETURN
    REVERT PANEL_END

    IF &sysmsg \= "" THEN
        &ALRM = YES
    ELSE
        &ALRM = NO
    if &pnl_input = yes then
        &s =
    &pdid = &sys.nm.id
    &pownuid = &sys.user.id
    &ploginame = &sys.term.name
    &ptime = TIME()
    &pdate = DATE( 2 )
    &ptname = &SYS.TERM.NAME
    &zpmenu = GMENU

/* Use a local variable to display hits */
&PUMSMAINHITS = &GLBLUMSMAINHITS
```

The following code segment from ZUMSMN1P (before it is modified) shows the lines before adding a hit counter:

```
%  L  +- List User Definitions
%  P  +- Password Change for your User
```

The following code segment shows how to customize ZUMSMN1P to display a label called "Hit Counter" and the hit counter itself (changes are in **bold type**):

```
%  L  +- List User Definitions                              Hit Counter
%  P  +- Password Change for your User                      `&PUMSMAINHITS
```

Considerations

After you obtain the source code for NonStop NET/MASTER NCL procedures and panels, save the source code in the distribution procedure library (ZNNMNDS) and distribution panel library (ZNNMPDS).

Do not modify any source code in the distribution procedure library and distribution panel library. Instead, copy the specific NCL procedure(s) and panel(s) you want to modify to the customized procedure library (ZNNMNCS) and customized panel library (ZNNMPCS) and modify them in these locations. Do not change their file names. The NCL procedure and panel search paths ensure that customized NCL procedures and panels are executed instead of distributed NCL procedures and panels with the same name.

After modifying source code, it is useful to test the code changes before implementing the code in production. When testing code from OCS, you should set test mode on using the PROFILE NCLTEST=YES command. This ensures that you test the latest version of an NCL procedure or panel.

After modifying and testing source code, use the SHOW PRELOAD command to determine the status of the NCL procedures you have customized. If an NCL procedure you have customized is not displayed, then the NCL procedure will automatically be available to all NonStop NET/MASTER users. If an NCL procedure you have customized is displayed, then you must unload the old NCL procedure from memory by using the SYSPARMS UNLOAD command. The NCL procedure will automatically be available to all NonStop NET/MASTER users when it is next accessed by any user.

The following example unloads an NCL procedure called ZUMSMAIN from memory. The LIBRARY column of the display from the SHOW PRELOAD command shows the name of an NCL procedure library (for example, MYSVOL). It is recommended that you specify the full library name (volume and subvolume) in the SYSPARMS UNLOAD command.

```
SYSPARMS UNLOAD=ZUMSMAIN,$DATA.MYSVOL
```

Conclusion

You can customize the standard NonStop NET/MASTER user interface by using various commands. If you obtain the source code for distributed NCL procedures and panels from your Compaq account representative, you have many additional opportunities for customization.