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
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Biography
John New is a technical writer. He has written and updated various
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NonStop NET/MASTER Tips and Techniques
NonStop NET/MASTER and CA-Unicenter Integration
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This column discusses how you can integrate NonStop NET/MASTER Management
Services with CA-Unicenter. The column briefly introduces the CA-Unicenter
command line interface. It explains how to customize NonStop NET/MASTER MS for
access to CA-Unicenter. It describes how to send commands interactively to a
local and remote CA-Unicenter system. It describes how to respond to CA-
Unicenter questions. It describes how to send commands programatically from an
NCL procedure and how you can automatically act upon the results of a command.
Finally, it describes how you can abbreviate lengthy CA-Unicenter commands.

The CA-Unicenter Command Line Interface

CA-Unicenter is distributed with a TACL macro called CAUTIL. This is the CA-
Unicenter command line interface and is an alternative to using the CA-Unicenter
GUI from your workstation. CAUTIL is normally installed on your Tandem computer
system during CA-Unicenter installation.

Refer to the *CA-Unicenter for Tandem CAUTIL Command Reference*, and other CA-
Unicenter manuals available from Computer Associates International,
Incorporated, for more information on CAUTIL.

Note: From the perspective of NonStop NET/MASTER MS, CAUTIL control statements
are external utility commands.

Customizing NonStop NET/MASTER MS For Access To CA-Unicenter

NonStop NET/MASTER MS uses CAUTIL as the interface to CA-Unicenter. When you
customize NonStop NET/MASTER MS for access to CA-Unicenter you enable access to
CAUTIL from NonStop NET/MASTER MS. After you enable access, the CA-Unicenter
commands you can use from both CAUTIL and NonStop NET/MASTER MS are the same.

Note: You do not need to customize NonStop NET/MASTER MS to access CA-Unicenter
if you are running NonStop NET/MASTER MS T6581ABK or later. These versions are
provided with CA-Unicenter access.

To enable access to CA-Unicenter from NonStop NET/MASTER MS you must define
CAUTIL as an external utility. You must have UMS authority and Utility
Definition Maintenance authority to do this. After logging on to NonStop
NET/MASTER MS, follow these steps:

1.   From the NonStop NET/MASTER MS Primary Menu, type M in the Select Option field and press the Enter key. The User ID Management Services : Primary Menu appears.

2.   Type Y in the Select Option field and press Enter. The UMS : Utility Definition Maintenance panel appears.

3.   Type the following values in the displayed fields and press Enter:

```
Field                     Value
--------------------------
Select Option             A
Enter Utility Name        CAUTIL
OPSYS or PROGRUN          O
```

The UMS : Utility Details panel appears.

Note: You do not have to specify a Utility Name of CAUTIL, but it is usually convenient to choose a utility name that matches the name of the file or TACL macro on your Tandem computer system to which the definition refers. It is not advisable to use a name of CA because CA is used by NonStop NET/MASTER MS as an abbreviation for the CANCEL command.

A message appears if a definition already exists for a utility named CAUTIL. If so, check whether the value of the File/Macro Name field is CAUTIL and whether this file or TACL macro is used to access CA-Unicenter. If so, confirm that all definition values match those shown below.

If the existing CAUTIL definition enables access to a file or TACL macro that is not used to access CA-Unicenter, then either delete the definition and add a new CAUTIL definition or retain the definition and add a definition to access CA-Unicenter with another name (for example CAXYZ). (For convenience, we will assume that the utility definition name is CAUTIL.)

4.   Create the CAUTIL utility definition with the following values (fields not listed are blank) and press the F3 function key to save the definition:

```
Field                     Type
--------------------------
Utility Name              CAUTIL
OPSYS or PROGRUN          O
File/Macro Name           CAUTIL
TACL Macro?               Y
Reads IN File?            Y
```

The UMS : Utility Definition Maintenance panel appears.

5.   Press F3. The User ID Management Services : Primary Menu appears.

6.   Type W in the Select Option field and press Enter. The UMS : Utility Command Set Maintenance Menu appears.

7.   Type the following values in the displayed fields and press Enter:

```
Field                     Value
--------------------------
Select Option             A
Enter Utility Name        CAUTIL
OPSYS or PROGRUN          O
```

The UMS : Utility Command Set Details panel appears.

8.   Create the CAUTIL utility command set with the following command and (recommended) authority level and press F3 to save the definition:

```
Command       Authority Level
--------------------------
```

```
        *              255
```

The asterisk (*) represents undefined CAUTIL commands. Assigning the high
authority level of 255 to the asterisk (and no other CAUTIL commands)
effectively limits access to all CAUTIL commands to NonStop NET/MASTER MS users
who have an authority level of 255.

You may want to keep the high authority level for undefined CAUTIL commands and
also tailor command set authority levels for commands you explicitly specify.
For example, you could explicitly assign a low authority level (0) to
information commands such as HELP and SHOW. You could also assign a range of
authority levels (from 0 through 255) to other commands that are executed from
an active command list (described later).

For example, the following authority levels might be appropriate for the
terminating command (two quotes (""), described later) and Spooler Management
commands:

```
        Command    Authority Level
        ---------------------------
        ""             0
        ALTER          4
        COLD           4
        COMMIT         255
        DEFINE         255
        DELETE         255
        DRAIN          3
        LIST           0
        SELECT         0
        STATUS         0
        WARM           3
```

9.   Press F3. The User ID Management Services : Primary Menu appears.

You have now created a utility definition called CAUTIL for NonStop NET/MASTER
MS to access CA-Unicenter.

Entering CA-Unicenter Commands In OCS

Typically you enter CA-Unicenter commands in OCS.

To enter CA-Unicenter commands from the OCS command input line you must precede
all commands by the utility name you have just defined - CAUTIL.

Note: NonStop NET/MASTER MS prefixes CAUTIL by "OPSYS SEND" when you enter the
command because you are sending the command to an external utility.

When you enter your first CA-Unicenter command after entering OCS, a background
TACL process is started to run the CAUTIL macro. Subsequent CA-Unicenter
commands are sent to the same TACL process (providing you enter commands from
the same Guardian user ID).

For some commands, you simply type the command from OCS and press Enter. The
command is sent for execution immediately and the results are displayed
immediately. For example, if you type "CAUTIL HELP" and press Enter, you
display the names of commands for which you can obtain help. Additional
commands that are sent for execution immediately are "CAUTIL CLEAR" and "CAUTIL
SHOW".

Other commands are used to build up an active command list. For these commands
you type the command from OCS and press Enter. The individual commands are not
sent for execution immediately. Instead all the commands currently in the list
are executed when you type a terminating command. The terminating command from
OCS is "CAUTIL """ (that is, CAUTIL followed by two quotes). The results from
the individual commands in the list are then displayed, one after another.

The following example shows a series of commands. Each command is entered individually. The last command is the terminating command.

```
CAUTIL SELECT PRINTCOLLECTOR ID=(*,$SPLS)
CAUTIL LIST PRINTCOLLECTOR
CAUTIL SELECT PRINTDEVICE ID=(*,$SPLS)
CAUTIL LIST PRINTDEVICE
CAUTIL SELECT PRINTLOCATION ID=(*,$SPLS)
CAUTIL LIST PRINTLOCATION
CAUTIL SELECT PRINTPROCESS ID=(*,$SPLS)
CAUTIL LIST PRINTPROCESS
CAUTIL ""
```

You can enter more than one command from OCS (if the commands fit on the command line) but you must enter the terminating command separately, for example:

```
CAUTIL SELECT PRINTCOLLECTOR ID=(*,$SPLS) LIST PRINTCOLLECTOR
CAUTIL ""
```

Entering CA-Unicenter Commands In Command Entry

Command Entry is an alternative to OCS for entering CA-Unicenter commands.

If you enter Command Entry and type "CAUTIL" in the UTILITY field, you do not have to precede CA-Unicenter commands by "CAUTIL" each time. For example you can enter the following commands in turn from the COMMAND field:

```
SELECT PRINTCOLLECTOR ID=(*,$SPLS)
LIST PRINTCOLLECTOR
""
```

You can enter more than one command from the COMMAND field (if the commands fit on the command line) but you must enter the terminating command separately, for example:

```
SELECT PRINTCOLLECTOR ID=(*,$SPLS) LIST PRINTCOLLECTOR
""
```

If you type just "CAUTIL" from OCS and press Enter, you invoke Command Entry with the UTILITY field already filled in.

Responding to a CA-Unicenter Question In OCS or Command Entry
----
Sometimes CA-Unicenter may ask you a question while you are in OCS or Command Entry.

For example, assume that you have entered the "CAUTIL REPLACE 1" command in OCS (or "REPLACE 1" in Command Entry) to replace line 1 in the active command list. CA-Unicenter asks whether you want to replace the line and displays a message similar to the following to which you must type the replacement text:

NNM1456 [255,030 CAUTIL] ......

Or assume that you indicate you want to delete a line from the active command list. CA-Unicenter displays a message similar to the following to which you must answer YES or NO:

NNM1456 [255,030 CAUTIL] Delete line?

To respond to a question in OCS, follow these steps:

1.   Type your answer to the question in the OCS command input line, for example, type YES to the Delete line? question.

2.   Use the Tab and arrow keys to position the cursor to the left of the question, for example, to the left of NNM1456 [255,030 CAUTIL] Delete line?.

3.   Press the F14 function key to answer the question.

As confirmation, the NNM1456 part of the message is replaced by |NM1456.

To respond to a question in Command Entry, type your response in the COMMAND
field and press the F14 function key to answer the question.

Entering CA-Unicenter Commands From an NCL Procedure

You can send CA-Unicenter commands for execution from an NCL procedure by using
either the CMD core statement or the INTCMD verb.

Use CMD if you do not want to return the results of a CA-Unicenter command to
the NCL process for analysis; otherwise, use INTCMD to send the command and use
the INTREAD, INTCLEAR, and INTCONT verbs to process the results. Using the
INTCMD, INTREAD, INTCLEAR, and INTCONT verbs is recommended because you can code
your NCL procedure to test the results of a command for success or failure and
make decisions based on the results.

When you enter a command from an NCL procedure it is good practice to enclose
the command in single quotes ('') or double quotes (""). For example:

CMD "CAUTIL SELECT PRINTCOLLECTOR ID=(*,$SPLS)",
    "LIST PRINTCOLLECTOR"

Or:

INTCMD "CAUTIL SELECT PRINTCOLLECTOR ID=(*,$SPLS)",
       "LIST PRINTCOLLECTOR"

However, you do not have to use any quotes with the terminating command. Some
variations of the terminating command are:

INTCMD CAUTIL
CMD CAUTIL ""
INTCMD CAUTIL ''
CMD "CAUTIL"
INTCMD "CAUTIL """""
CMD "CAUTIL ''"

The following NCL procedure (UNICOM), when executed from the OCS command input
line, takes the passed parameters, which are one or more CA-Unicenter commands,
and sends them to CAUTIL for execution. The results are returned to the NCL
process, which displays them on the OCS window.

Note: You do not have to call this NCL procedure UNICOM but if you change the
name it is not advisable to call it CA because CA is used by NonStop NET/MASTER
MS as an abbreviation for the CANCEL command.

```
unicom: procedure
&count=0
intcmd "opsys send cautil" &sys.allparms
gosub response
intcmd opsys send cautil
do forever
   gosub response
end
endtest:
write term=yes data="CAUTIL command completed"
exit
response:
   intread vars=&1 wait=45
   if &sys.fdbk=4 then
      goto endtest
   if &1 == "NNM0995" or &1 == "NNM0999" then
      &count=&count+1
   intcont
```

```
   retsub
end
```

Note: To avoid retyping this NCL procedure you can download it from the
International Software Services web site at
http://www.intsoft.com.au/~intsoft/download/unicom10.zip.

The following example executes UNICOM and sends a CA-Unicenter command for
execution. The terminating command is sent by the NCL procedure.

UNICOM SELECT PRINTCOLLECTOR ID=(*,$SPLS) LIST PRINTCOLLECTOR

Variations on this NCL procedure could include discarding nonessential NNM1468
and NNM1456 messages and formatting the output.

NonStop NET/MASTER MS enables you to write system-level procedures (EMSPROC,
LOGPROC, and MSGPROC) using NCL. You could consider using EMSPROC to monitor
CA-Unicenter and to observe and automatically react to CA-Unicenter events. You
could use LOGPROC to build up a customized log file of certain CA-Unicenter
messages. For each OCS operator, a MSGPROC in each OCS window could provide a
tailored display of CA-Unicenter messages.

Sending CA-Unicenter Commands to a Remote CA-Unicenter System
----
You can send commands from a local system to a remote CA-Unicenter system. The
results are returned to the local system. You can do this if:

o   Your local system runs either NonStop NET/MASTER MS, or SOLVE:NET/MASTER
(available from Sterling Software), or both NetView (available from IBM) and
SOLVE:CONNECT (available from Sterling Software)
o   Your remote system runs NonStop NET/MASTER MS and CA-Unicenter
o   You have established an Inter-NET/MASTER Connection (INMC) link between
the local and remote systems
o   CAUTIL is defined as an external utility on the remote NonStop NET/MASTER
MS system

Use the ROUTE command to send commands to a remote CA-Unicenter system. You can
use the ROUTE command from OCS, Command Entry, and NCL procedures. For example,
assume you have established a link called REM1 to a NonStop NET/MASTER MS system
running on a remote Tandem node called \REM1.

You can send the following commands individually from your local OCS window to
the remote CA-Unicenter system:

ROUTE REM1 CAUTIL SELECT PRINTCOLLECTOR ID=(*,$SPLS)
ROUTE REM1 CAUTIL LIST PRINTCOLLECTOR
ROUTE REM1 CAUTIL ""

If you have typed the name of the remote link "REM1" in the SYSTEM field and
"CAUTIL" in the UTILITY field, you can send the following commands individually
from Command Entry:

SELECT PRINTCOLLECTOR ID=(*,$SPLS)
LIST PRINTCOLLECTOR
""

From an NCL procedure, the following statements send commands to the remote CA-
Unicenter system:

CMD "ROUTE REM1 CAUTIL SELECT PRINTCOLLECTOR ID=(*,$SPLS)"
CMD "ROUTE REM1 CAUTIL LIST PRINTCOLLECTOR"
CMD "ROUTE REM1 CAUTIL"

INTCMD "ROUTE REM1 CAUTIL SELECT PRINTCOLLECTOR ID=(*,$SPLS)"
INTCMD "ROUTE REM1 CAUTIL LIST PRINTCOLLECTOR"
INTCMD "ROUTE REM1 CAUTIL"

Abbreviating Lengthy CA-Unicenter Commands

You can use NonStop NET/MASTER MS FK command to define function keys that enable
you to execute CA-Unicenter commands more easily from OCS. For example, the
following command defines the SF1 function key as the CAUTIL terminating
command:

FK SF1 IMM,OPSYS SEND CAUTIL ""

The following command defines the SF2 function key as a prefix function key so
that you do not have to enter "CAUTIL" whenever you execute a CA-Unicenter
command:

FK SF2 PREF,OPSYS SEND CAUTIL+

Assume that you now type a command such as "SELECT PRINTCOLLECTOR ID=(*,$SPLS)
LIST PRINTCOLLECTOR" in the OCS command input line. Pressing SF2 prefixes
"OPSYS SEND CAUTIL" to the command and adds the command to the active command
list. Pressing SF1 executes the command in the list.

The following example combines both these steps to a single step. It defines
the SF3 function key as a prefix function key to execute the UNICOM NCL
procedure (described earlier).

FK SF3 PREF,-START UNICOM+

Assume that you now type a command such as "SELECT PRINTCOLLECTOR ID=(*,$SPLS)
LIST PRINTCOLLECTOR" in the OCS command input line. Pressing SF3 executes the
NCL procedure, which executes the CAUTIL command, executes the terminating
command, and displays the results.

The EQUATE command is also available to assign frequently used lengthy commands
to a short string. For example the following command assigns a lengthy command
to the string "CACOLL" to display information about collectors:

EQUATE CACOLL SELECT PRINTCOLLECTOR ID=(*,$SPLS) LIST PRINTCOLLECTOR

Now you can simply type "CACOLL" and press Enter to execute the lengthy CA-
Unicenter command.

Refer to the NonStop NET/MASTER MS Command Reference Manual for more
information.