

I Didn't Know You Could Do That!

Paul Kimpel & Accomplices

2015 UNITE Conference

Session MCP 4012

Wednesday, 14 October 2015, 1:30 p.m.

Copyright © 2015, All Rights Reserved

Paradigm Corporation

Presentations

- ◆ **Paul Kimpel**
 - Using the SNTP Time Client
- ◆ **Christine Ziegler**
 - MARC STORE Command
 - Print System PRINTRETENTION Feature
- ◆ **Dan Meyer**
 - LOOKUP Intrinsic
 - MYOPTIONSUPPORT Intrinsic
- ◆ **Doug Dobson**
 - I Didn't Know You Could Do That With MARC

Paradigm

2

Setting the System Time Using the SNTP Client

Paul Kimpel
Paradigm Corporation

The SNTP Client

- ◆ Synchronizes MCP clock with a time source
 - Requires TCP/IP access to an NTP time server
 - Windows AD controllers *can* be time sources
- ◆ Cleverly handles clock inaccuracies
 - Slow clocks are simply adjusted forward
 - Fast clocks are gradually "slewed" backward
 - Avoids discontinuities in logs and audit trails
 - Completely transparent to application programs
- ◆ Automatically adjusts for DST
 - Establishes a schedule for time changes
 - Changes MCP time and time zone per that schedule

Configuring the Time Client

- ◆ **SL TIMESUPPORT** must be installed
 - Part of standard MCP IOE
 - See *TCP/IP Distributed Systems Services Operations Guide* for details
- ◆ **OP -OKTIMEANDDATE (#24)**
- ◆ Set a time zone for your system
 - `TR 10:31:15 TIMEZONE PST`
- ◆ Choose a time server
 - See <http://www.ntp.org>
 - Avoid Tier 1 servers – use Tier 2 or 3
 - Consider using a pool server, e.g., `us.pool.ntp.org`
 - Firewall must allow *outbound* UDP port 123

Paradigm

5

Sample Time Client Configuration

```
NA TIME + (one time, initially)
NA TIME SERVER ADD USPOOL
  (ADDR="us.pool.ntp.org")
.....
NA TIME DRIFT MAX 5 DAYS
NA TIME QUERY MAX 23 HOURS
NA TIME AUTO ON
NA TIME OPTION MAXDRIFT 15 SECONDS
NA TIME OPTION MAXADJUST 65 MINUTES
NA TIME OPTION AUTHENTICATE OFF
.....
NA TIME SEASON ADD IN MARCH ON SUNDAY >= 8
  AT 02:00 ZONE PDT
NA TIME SEASON ADD IN NOVEMBER ON SUNDAY >= 1
  AT 02:00 ZONE PST
NA TIME OPTION AUTOSEASON ON SEASONWARN OFF
```

Paradigm

6

MARC Store Command

Christine Ziegler
LaSalle Company

Did you know that there is a way to STORE output you receive from MARC? I KNOW!

Say you do a FILES from MARC. There are pages of data. You can store that output to a file. Later on you can print it, view it, search it, include it in another file.

If you know ahead of time you will want to store the data, you can specify that at the beginning.

STORE <file-name> :<what data to store>

For example, you can gather information into one file for a UCF.

STORE MY/STATUS: WM (What MCP level)

STORE MY/STATUS +: AA (Active mix entries)

STORE MY/STATUS +: LIBS ALL (Library task entries)

The last two entries (with the +) appends the data at the end of the file.

IF you request data from the MARC action line and you realize it is a lot of data, you can STORE it after the fact. On the second page, you will see a store option. Here I typed in FILES SRC1/CLZ/=

```
OUTPUT - MARC COMMAND OUTPUT
Action: ▶+
Home GO Return Comnd Store + -
Response returned at 11:30:41
(PLUS) ON SDI
. SRC1
. . CLZ : COBOL74
. . CLZ
. . . AP
. . . . 003 : COBOL74
. . . . 170 : COBOL74
. . . EC : COBOL74
. . . EC
. . . . 004
. . . . . V1 : COBOL74
```

STORE CLZ/SRC1
Home GO Return Comnd Store + -

The file CLZ/SRC1 gets created when you transmit. The screen returns to the Home MARC screen with a message that the output has been saved.

MYOPTIONSUPPORT
Intrinsic

Dan Meyer
University of Washington

I Didn't Know You Could Do That!

MYOPTIONSUPPORT

Dan Meyer

UNIVERSITY of WASHINGTON

Configuration Files

- > Do you have many configuration files?
 - One per program?
 - 4-5 entries per file?
 - Test vs. production values?
- > Do you use *OBJECT/EMAIL?
 - EMAIL entries in *INSTALLATION/OPTIONS file
 - Additional entries in (<usercode>)CANDE/MYOPTIONS
 - > *Name and *Email entries
 - > Alias entries
- > Do you ever need to change remote server names?

MYOPTIONSUPPORT

System Software Utilities Operations Ref Manual, Appendix A

- > Entry points
 - INSTALLATION_OPTIONS
 - ANY_MYOPTIONS
 - MYOPTION
- > Installation preferences → *INSTALLATION/OPTIONS
 - System wide settings
 - Default values
- > User preferences → CANDE/MYOPTIONS
 - Test values
 - User specific values

OPTION Format

<key> <name> = <text>

- > <key> identifies the client
- > <name> identifies a specified entry
- > <text> is the “data” for your client
- > Examples:
 - **EMAIL MAILSERVER = appsubmit.cac.washington.edu**
 - **WINFILE UCSFSCL1 = it-fsc1grp1.s.uw.edu\MCP**
 - **STARTUP SSHCLIENTFAMILY = PACK**
 - **PACKMAINT EMAIL_TO = <meyerdp@uw.edu>**
 - **PACKMAINT SUCCESS = status for <family> at <host>**
 - **PACKMAINT ERROR = error for <family> at <host>**

Only for ALGOL

No COBOL entry points

- > Entry point parameters don't match
 - Defined in GENERALSUPPORT with Star-bounded REAL ARRAYS
 - COBOL85 calls with Zero-bounded EBCDIC ARRAYS
- > Parameters passed by reference
- > Entry points modify the parameters with contents of CANDE/MYOPTIONS and *INSTALLATION/OPTIONS

```
boolean procedure Installation_options (options);
  array options [*]; library general support;
boolean procedure any_myoptions (options);
  array options [*]; library general support;
boolean procedure myoptions (name, options);
  array name, options [*]; library general support;
```

But, Using a “Simple” Jacket Procedure

```
REAL PROCEDURE Installation_Options_COB (eaOptions, lenOptions);
  EBCDIC ARRAY eaOptions[0];
  INTEGER lenOptions;
  BEGIN
    ARRAY aOptions[0:49];
    REAL rslt;
    IF lenOptions GTR BSIZE(aOptions) THEN
      RESIZE (aOptions, WRDS(lenOptions));
    REPLACE POINTER(aOptions[0]) BY eaOptions FOR lenOptions;
    rslt := REAL(Installation_options (aOptions));
    IF SIZE(eaOptions) LSS BSIZE(aOptions) THEN
      DISPLAY ("*** The parameter for INSTALLATION_OPTIONS_COB "
        "needs to be increased to at least "
        "!! STRING(BSIZE(aOptions),*) !! " bytes ***");
    lenOptions := MIN(SIZE(eaOptions), BSIZE(aOptions));
    REPLACE eaOptions BY POINTER(aOptions[0]) FOR lenOptions;
    Installation_Options_COB := rslt;
  END of Installation_Options_COB;
```

So, From a COBOL85 Program

```
DATA DIVISION.
WORKING-STORAGE SECTION.
01 InstalledOptions PIC X(300).
77 InstalledOptions PIC S9(11) BINARY.
77 Installed-77 PIC REAL.
88 Installed VALUE 1.
...
Initialize_MyOptions.
CHANGE ATTRIBUTE LIBACCESS OF "MYOPTIONSUPPORT"
TO BYFUNCTION.

MOVE "MYOPTIONS" TO InstalledOptions.
MOVE 9 TO InstalledOptions.
CALL "INSTALLATION_OPTIONS_COB" IN MYOPTIONSUPPORT"
USING InstalledOptions, InstalledOptions
GIVING Installed-77.
```

UNIVERSITY of WASHINGTON

MYOPTIONSUPPORT

<http://themeyerflyer.info/unite/myoptionsupport.zip>

- > ALGOL library
 - Source: *SYMBOL/MYOPTIONSUPPORT
 - Object: *SYSTEM/MYOPTIONSUPPORT
 - > UNWRAP *SYSTEM/= OUT OF "MYOPTIONSUPPORT.CON"
 - TO DISK (PACK.RESTRICTED=FALSE)
 - > SL MYOPTIONSUPPORT = *SYSTEM/MYOPTIONSUPPORT
- > Sample COBOL85 program
 - Source: *EXAMPLE/COBOL85/MYOPTIONS
 - MyOptions: *EXAMPLE/CANDE/MYOPTIONS
 - > UNWRAP *EXAMPLE/CANDE/MYOPTIONS
 - AS CANDE/MYOPTIONS OUT OF "MYOPTIONSUPPORT.CON"

UNIVERSITY of WASHINGTON

**Print System
PRINTRETENTION Feature**

Christine Ziegler
LaSalle Company

Ever realized that someone took off with the report you sent to the computer room ½ hour ago?

Or that the report you needed prints by default to the warehouse printer... and you've already far surpassed your 10,000 steps for the day?

Or that the printer jammed and that "rush" print job is... gone?!?

A few years ago during one of his presentations, Paul mentioned a little gem in the print system. I was so surprised to learn it, I exclaimed "Well, THAT was worth the price of the conference!" It was a true "I DIDN'T KNOW YOU COULD DO THAT!" moment.

When I got home, I typed PS DEF PRINTRETENTION on the MARC action line.

Default	Value	Description
PRINTRETENTION	none	The file will be removed immediately after completion.

Clearly, I didn't have it set up.

I pulled up my handy dandy *Print System User's Guide PDF* and found the sections pertaining to PRINTRETENTION. For MCP 15.0 3-41-ff and 10-104 were particularly helpful.

The syntax for setting PRINTRETENTION is the same as for setting times within WFLs, except the **days** must be relative.

Some of the PRINTRETENTION settings I considered included:

00:00 (midnight)

18:00 on +1 (6 pm tomorrow)

+8:00 (eight hours from now)

+1:00 on +1 (one hour and one day (i.e. 25 hours) from now)

I decided what I wanted our setting to be:

PS DEF PRINTRETENTION "23:50 ON +7"

Let me mention at this point that the quotation marks and the word "ON" really do matter. Trust me on this one.

Default	Value	Description
PRINTRETENTION	+7 day(s) at 23:50	The absolute time (time of day) when files will be removed after completion.

Now when I do a PS SHOW C (completed), I see:

```
1228 182550r (PLUS) WFL/CRS/CLZ 08:55:45 09/30/2015 NP1
```

If I do PS SHOW 182550 :DETAIL, it includes

```
State: Completed
Completed: 08:55:45 on 09/30/2015
Reprintable: before 23:01:00 on 10/07/2015
```

t the end.

The "r" indicates that the file is reprintable. To reprint this list, I would simply do a PS MOD 182550.

At some point, I decided we were overwhelmed with reprintable files.

I took off the PRINTRETENTION:

```
PS DEF PRINTRETENTION -
```

If I do a PS SHOW 999999 :DETAIL now, this is what I get:

```
State: Final recoverable
Completed: 09:27:45 on 09/30/2015
Removal: 09:32:45 on 09/30/2015
```

There is a 5 minute removal delay because our REQUESTRETENTION option is set to the default of 5 minutes.

I decided that I wanted PRINTRETENTION to be active for some of my print jobs by not system wide. I Now set the PRINTRETENTION option as a file attribute in the WFL.

```
100?BEGIN JOB WFL/CRS/CLZ;
200 PRINT (PLUS)LIST/CLZ/TEST ON REPORTS;
300 PRINTDEFAULTS = (DESTINATION="NP1",
400 PRINTRETENTION="23:01 ON +7",
500 FORMID = "1PERF",
600 HEADER=SUPPRESSED, TRAILER=SUPPRESSED);
700?END JOB
```

MCP LOOKUP Intrinsic

Dan Meyer
University of Washington

I Didn't Know You Could Do That!

Lookup Key Words

Dan Meyer

UNIVERSITY of WASHINGTON

Minimum Keyword Spelling

Have you ever wondered ...

- > How various utilities allow any spelling of a keyword after a minimum number of characters?
- > You see it in RAILROAD diagrams
 - PRINTER
 - TEXT
 - TRIMBLANKS
 - VERBOSE

GENERSUPPORT'S LOOKUPX

REAL PROCEDURE LOOKUPX (P, N, IDS);

- > P is a POINTER to some text
- > N is the length of the text
- > IDS is an ARRAY of keywords, usually a VALUE array

```
VALUE ARRAY COMMANDS
(5 % ALPHA_UNDER (ALPHA OR "_")
, 1 , 80"3STATS"
, 2 , 80"1PAUSE"
, 3 , 80"1VERBOSE"
, 4 , 80"APROTECTI ON"
, 5 , 80"9PROTECTED"
);
```

LOOKUPX Example

TASKSTRING=" P VER PROTECT"

PROCEDURE parseTaskstring;

BEGIN

EBCDIC ARRAY tskstr [0:255];

POINTER p1,p2;

INTEGER len, cmd;

REPLACE p2: (p1:=tskstr)) BY MYSELF.TASKSTRING;

len := OFFSET(p2) - 1;

WHILE len GTR 0 DO

BEGIN

cmd := LOOKUPX (p1, len, commands);

If cmd eq 0 then

<token not found in commands>

ELSE

<handle command>

END;

VALUE ARRAY COMMANDS

(5 % ALPHA_UNDER (ALPHA OR "_")

, 1 , 80"3STATS"

, 2 , 80"1PAUSE"

, 3 , 80"1VERBOSE"

, 4 , 80"APROTECTI ON"

, 5 , 80"9PROTECTED"

);

Types of SCANS

Values in Word 0 of the IDS Array

0 → ALPHA

1 → ALPHA_ONLY

("ABCDEFGHIJKLMNOPQRSTUVWXYZ")

2 → ALPHA_ONLY_DASH (ALPHA_ONLY OR "-")

3 → ALPHA_DASH (ALPHA OR "-")

4 → ALPHA_ONLY_UNDER (ALPHA_ONLY OR "_")

5 → ALPHA_UNDER (ALPHA OR "_")

Special Character Handling

<mx>AX +TRACE

VALUE ARRAY TRACE

(0

,1 , 80"1+"

,2 , 80"1-"

,3 , 80"1TRACE"

,4 ,80"1 "

)

GENERALSUPPORT'S LOOKUP

REAL PROCEDURE LOOKUP (P, N, IDS, VAL, CINWIDTH);

- > VAL is the value of a scanned integer
 - 3562 in the example below
- > CINWIDTH is the offset of the token scanned
 - 0 when scanning SSL
 - 4 when scanning PORT
 - 9 when scanning 3562

TASKSTRING = "SSL PORT 3562"

Library Definitions

```
LIBRARY GENERALSUPPORT (LIBACCESS = BYFUNCTION);
```

```
REAL PROCEDURE LOOKUP (P, N, IDS);
```

```
REFERENCE P, N;
```

```
POINTER P; % pointer to text; updated iff match found in IDS
```

```
INTEGER N; % length of text; updated iff match found in IDS
```

```
ARRAY IDS[0]; % keyword array
```

```
LIBRARY GENERALSUPPORT (ACTUALNAME = "LOOKUPX");
```

```
REAL PROCEDURE LOOKUP (P, N, IDS, VAL, CINWIDTH);
```

```
REFERENCE P, N, VAL, CINWIDTH;
```

```
POINTER P; % pointer to text; updated iff match found in IDS
```

```
INTEGER N, % length of text; updated iff match found in IDS
```

```
VAL, % updated to the value of a scanned integer
```

```
CINWIDTH; % updated to the offset of the token scanned
```

```
ARRAY IDS[0]; % keyword array
```

```
LIBRARY GENERALSUPPORT;
```

**I Didn't Know You Could Do That
With MARC**

Doug Dobson
University of Washington

I Didn't Know I Could Do That with MARC

Multiple Mix numbers

MSG vs SMSG vs ALLMSG

C

Abbreviations and string commands together

GO

PDIR

LIST

SHOWOPEN

DIRECTIVE

Multiple Mix numbers

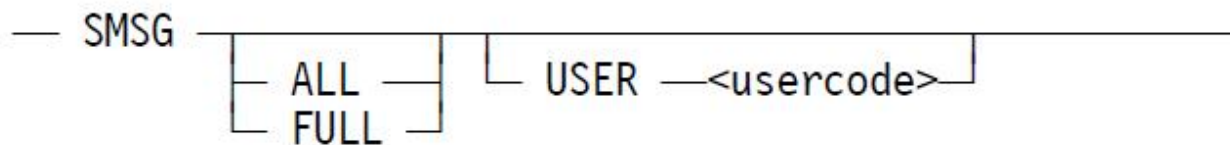
You can enter lists and ranges of mix numbers. Eg. "1001-1005,1010 AX OK"

MSG vs SMSG vs ALLMSG

MSG gives you the messages from your tasks.

SMSG gives you system messages

Syntax



ALLMSG gives the same as SMSG plus End-of-task (EOT) messages

C

Enter "C" in the action field to bring up a much larger command window. Also MARC will remember what you entered the next time you enter C

Abbreviations and string commands together

In the Choice field you only need to type enough letters to make your choice unique. E.G. on the Home screen you can enter "FI" for the file screen.

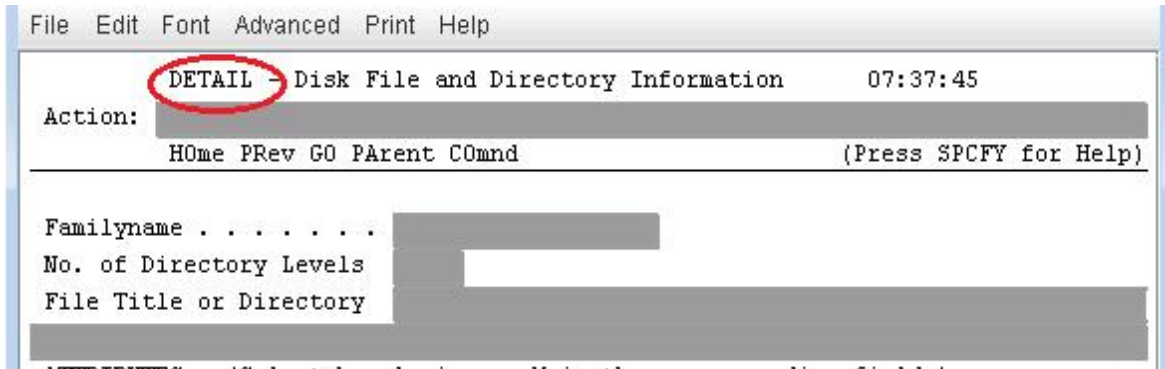
You can string commands together. E.g. from the home screen entering "FI DE" will take you to the File Detail screen.

HO

“HO” in the Action field will always take you home. So “HO FI DE” will always take you to the File Detail screen.

GO

Each screen has a name. Just enter GO <screen name> to jump to it.



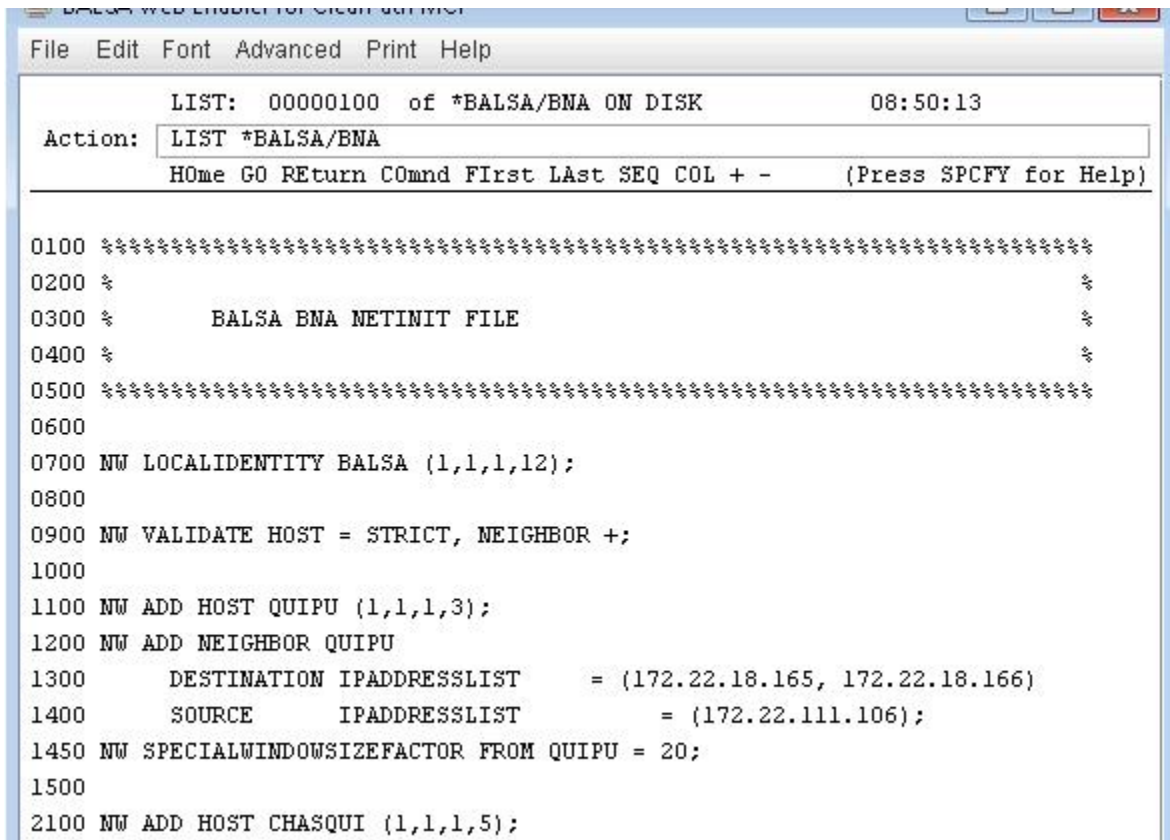
PDIR

You can use the PDIR command directly in MARC. Syntax is the same as the *SYSTEM/PDIR utility.

I prefer to use the FILE command in CANDE because of abbreviations or *SYSTEM/PDIR in CANDE.

LIST command

You can LIST a file by typing "LIST <filename>"



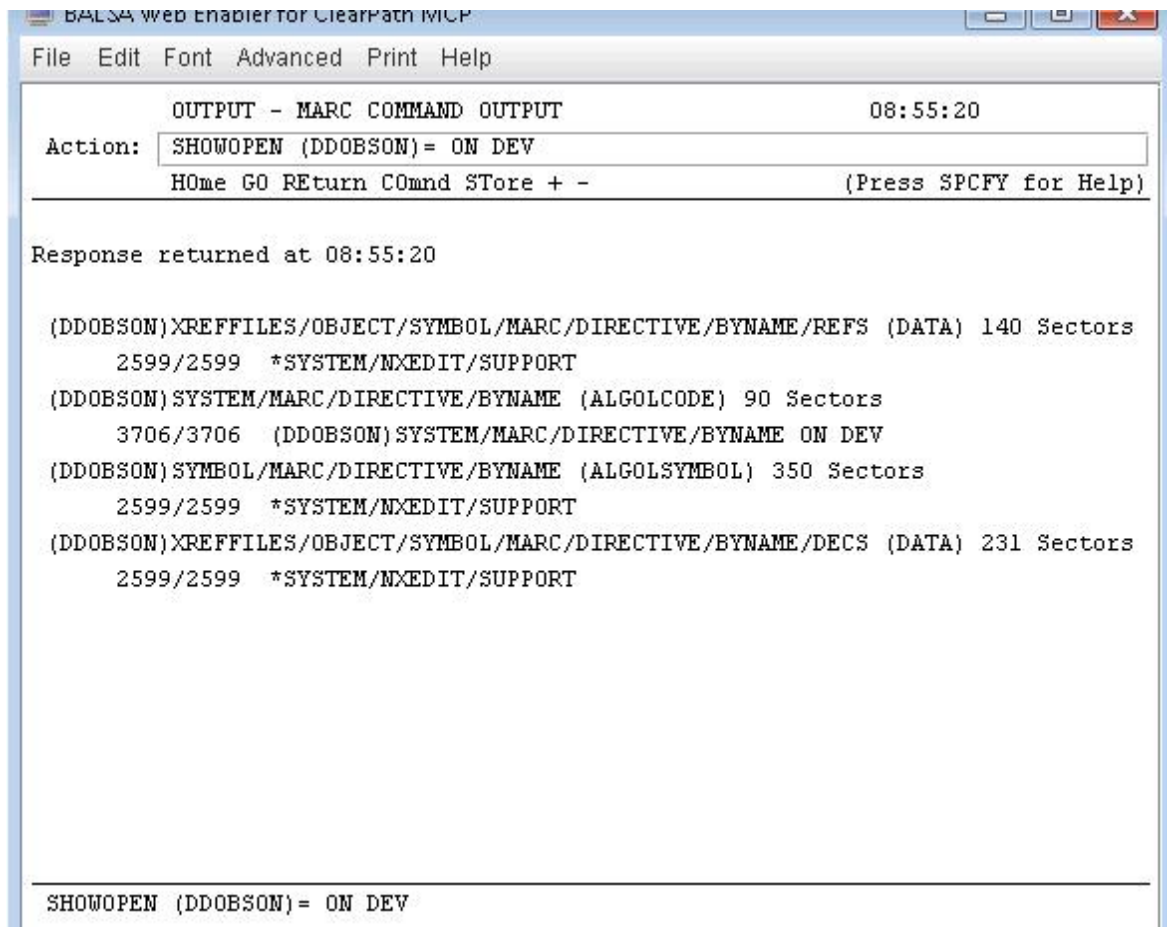
```
File Edit Font Advanced Print Help
LIST: 00000100 of *BALSA/BNA ON DISK 08:50:13
Action: LIST *BALSA/BNA
Home GO Return COmnd FIrst LAsT SEQ COL + - (Press SPCFY for Help)

0100 *****
0200 %
0300 % BALSA BNA NETINIT FILE %
0400 %
0500 *****
0600
0700 NW LOCALIDENTITY BALSA (1,1,1,12);
0800
0900 NW VALIDATE HOST = STRICT, NEIGHBOR +;
1000
1100 NW ADD HOST QUIPU (1,1,1,3);
1200 NW ADD NEIGHBOR QUIPU
1300 DESTINATION IPADDRESSLIST = (172.22.18.165, 172.22.18.166)
1400 SOURCE IPADDRESSLIST = (172.22.111.106);
1450 NW SPECIALWINDOWSIZEFACTOR FROM QUIPU = 20;
1500
2100 NW ADD HOST CHASQUI (1,1,1,5);
```

SHOWOPEN

Use the SHOWOPEN command to see which files are open and by which process.

This is actually a system command.



The screenshot shows a terminal window titled "BALSA web Enabler for ClearPath MCP". The window has a menu bar with "File", "Edit", "Font", "Advanced", "Print", and "Help". The terminal output is as follows:

```
OUTPUT - MARC COMMAND OUTPUT                                08:55:20
Action: SHOWOPEN (DDOBSON)= ON DEV
        H0me GO Return C0mnd ST0re + -                      (Press SPCFY for Help)

Response returned at 08:55:20

(DDOBSON)XREFFILES/OBJECT/SYMBOL/MARC/DIRECTIVE/BYNAME/REFS (DATA) 140 Sectors
      2599/2599 *SYSTEM/MXEDIT/SUPPORT
(DDOBSON)SYSTEM/MARC/DIRECTIVE/BYNAME (ALGOLCODE) 90 Sectors
      3706/3706 (DDOBSON)SYSTEM/MARC/DIRECTIVE/BYNAME ON DEV
(DDOBSON)SYMBOL/MARC/DIRECTIVE/BYNAME (ALGOLSYMBOL) 350 Sectors
      2599/2599 *SYSTEM/MXEDIT/SUPPORT
(DDOBSON)XREFFILES/OBJECT/SYMBOL/MARC/DIRECTIVE/BYNAME/DECS (DATA) 231 Sectors
      2599/2599 *SYSTEM/MXEDIT/SUPPORT

SHOWOPEN (DDOBSON)= ON DEV
```


DIRECTIVES

By creating a simple Algol library you can create your own commands to do all sorts of wonderful things.

The example in the MARC documentation shows how to do some things like INFO & MORE.

I've modified that to create a "BYNAME" command that sends a command to a named program.

The screenshot shows a window titled "DIRECT - OPTIONS FOR DIRECTIVES" with a menu bar (File, Edit, Font, Advanced, Print, Help) and a timestamp of 09:07:53. The "Action:" field is empty. Below the menu bar are navigation options: "Home PRev GO PARENT COmnd" and "(Press SPCFY for Help)". The main area contains the instruction "Place an 'X' by the desired function:" followed by a list of options with checkboxes: "List current directives", "Delete a directive", "Add a new directive" (checked with an 'x'), "Replace an existing directive", "Enable a disabled directive", and "Disable an enabled directive". Below this, the "Enter name of directive:" field contains "INFO" and the "Enter procedure for directive:" field contains "(DDOBSON)SYSTEM/MARC/DIRECTIVE/BYNAME ON D". A cursor is visible at the end of the procedure field.

The screenshot shows a window titled "OUTPUT - MARC COMMAND OUTPUT" with a menu bar (File, Edit, Font, Advanced, Print, Help) and a timestamp of 09:10:37. The "Action:" field contains "DIRECTIVE". Below the menu bar are navigation options: "Home GO Return COmnd STORE + -" and "(Press SPCFY for Help)". The main area displays the text "Response returned at 09:10:37" followed by the output of the "BYNAME" command: "BYNAME": NO SECURITY RESTRICTIONS. LINKED to: (DDOBSON)SYSTEM/MARC/DIRECTIVE/BYNAME ON DEV. Below this, the output of the "INFO" command is shown: "INFO": NO SECURITY RESTRICTIONS. LINKED to: (DDOBSON)SYSTEM/MARC/DIRECTIVE/BYNAME ON DEV.

INFO command example

```
OUTPUT - MARC COMMAND OUTPUT                                09:12:15
Action: Return
Home GO Return COmnd STore + -                            (Press SPCFY for Help)

Response returned at 09:12:15

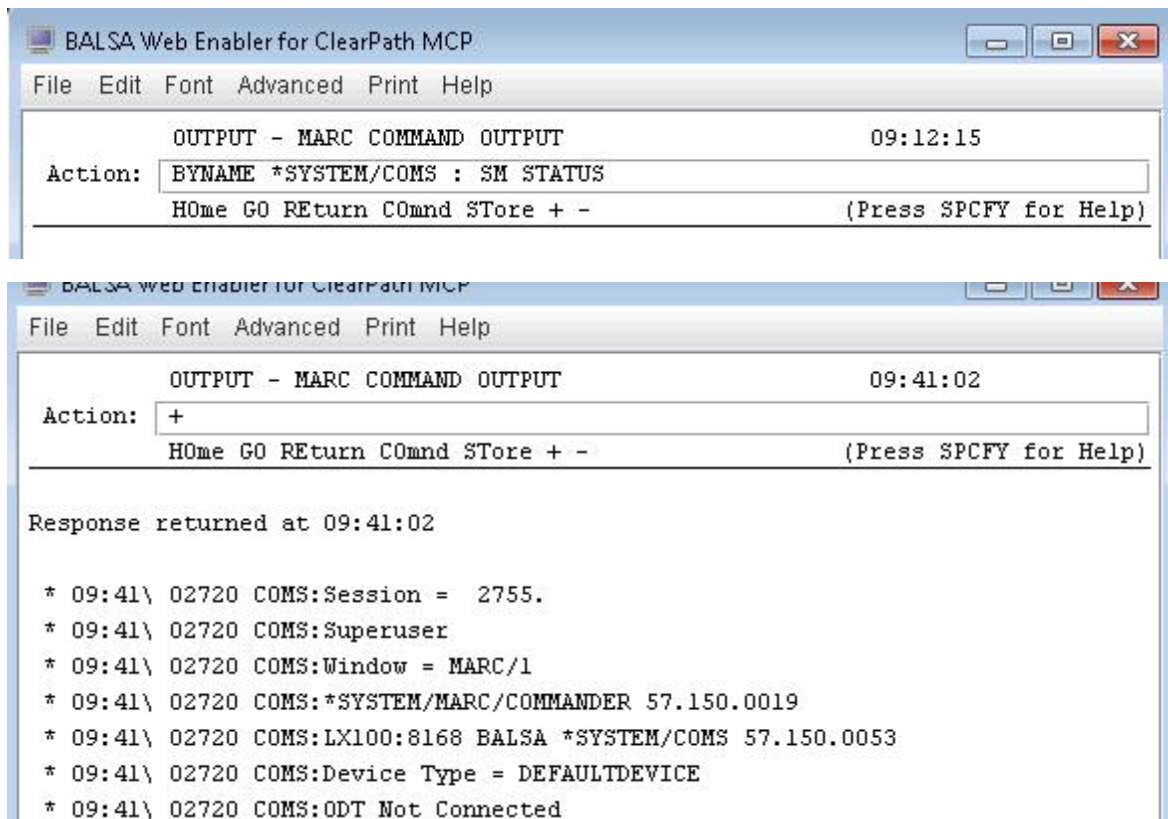
This information is for your current MARC dialogue:

Station name : CCF/DDOBSON/140_142_107_110/1
Usercode of caller : DDOBSON
Chargecode of caller: TSSSYS999907
The following security capabilities are available:
SYSTEMUSER Capabilities
PRIVILEGED Capabilities
CONTROLCAPABLE Capabilities
COMMANDCAPABLE Capabilities

Enter 'MORE' action to continue dialogue information.

INFO
```

BYNAME command example



END

I Didn't Know You Could Do That!

2015 UNITE Conference