CICS Online Transmission Time Optimizer for z/OS

Technical Overview
CICS Products
IBM UK Laboratories
Hursley Park

IBM Software Group

Preface

- The following terms are trademarks or registered trademarks of the International Business Machines Corporation in the United States and/or other countries:

  - CICS, CICS for MVS/ESA, CICS/ESA, CICSPlex SM
  - DB2
  - DFSMS/MVS
  - IBM
  - MQSeries
  - MVS/ESA
  - OS/390
  - RMF, Resource Measurement Facility
  - S/390, z/OS
  - WebSphere

- The following terms are trademarks Tivoli Systems, an IBM Company:

  - Tivoli Management Environment, TME 10

- Java and all Java-based trademarks and logos are trademarks or registered trademarks of Sun Microsystems, Inc. in the United States and/or other countries.

IBM Software Group

IBM

What is CICS OTTO ?

- CICS Online Transmission Time Optimizer for z/OS
  - CICS OTTO optimizes
    - Data streams directed to 3270-type display stations and/or printers
    - Data streams directed to SCS-type printers
    - Data streams directed to banking terminals 3600/4700
  - run-time tool
  - CICS specific solution (not VTAM)
- Product Number - 5655-I05
  - Not part of CICS Transaction Server for z/OS and OS/390
  - OTC pricing model -**IPLA product with a single charge based on Value Units**

IBM Software Group

IBM

IBM CICS Online Transmission Time Optimizer (CICS OTTO) improves 3270 network resources utilization and response time and increases end-user productivity by identifying and removing repetitive data and compressing 3270 data streams. CICS OTTO operates efficiently and transparently to applications and users and supports both, local and remote users.

CICS OTTO Optimization Techniques

- Repetitive character elimination for 3270-type terminals and printers
- Transmission of only changed data for 3270-type terminals
  - Keeps an image of the actual screen layout in virtual storage
- Blank elimination for 3270 SNA Character Set (SCS) printers
- String Control Byte (SCB) compression for 3600/4700 type terminals
  - outbound and inbound

IBM Software Group

IBM

CICS Online Transmission Time Optimizer for z/OS helps identify and remove repetitive data by examining and dynamically compressing outgoing data streams. Repetitive characters — typically as much as 25 percent of all characters sent to terminals and other 3270 network devices — are reduced to only four bytes, reducing transmitted message size considerably.
CICS OTTO also minimizes outbound data transmission to the terminals by keeping screen layout in memory and removing data fields already present on the screen.
Blank spaces are eliminated to improve print speed.

CICS OTTO Benefits

- Reduces network load
  - better response time and printer speed
  - end-user response time improvement
- Use device characteristics to create output quicker
  - tab characters on printers, for example
- Better use of existing network resources and devices
  - minimizes the need for new communications equipment
  - reduces cost of data transmission
- Easy to install, customize and use
  - Interface, familiar to any CICS systems programmer
- Statistics maintained
- Optimization features are easily controlled
- Attractively priced - One Time Charge pricing model

IBM

CICS Online Transmission Time Optimizer for z/OS
- helps to increase the productivity of the network without rewriting applications
- improves productivity of the system and end users
- enables application programmers to concentrate on
functionality, rather than performance
- minimizes the need for new communications equipment by efficiently utilizing your
existing current lines, modems, and controllers
CICS Online Transmission Time Optimizer is easy to install, setup and use. System
administrators can use built-in controls to temporarily or permanently customize the way
CICS Online Transmission Time Optimizer works when it launches with your CICS system
at startup.
CICS OTTO monitors its own operations and tells you how effective its optimization is in
your environment by continually monitoring operations and reporting its own progress on
demand. Operational statistics may be displayed on a screen or written to the console. At
system shut   down, statistics can be optionally written to the console or a file.
CICS OTTO is an attractively priced product helping to drive down costs of enterprise
computing.

CICS OTTO - Main menu

```
PRIMARY OPTION MENU          Otto for CICS V1R1                    OTTOMO1


OPTION ===> _


          1.  START / STOP  Otto for CICS Optimization
          2.  Display and Control Otto Image Pool Size
          3.  3270 Component Based Optimization Control
          4.  3600/SCS Component Based Optimization Control
          5.  LU Based Optimization Control
          6.  Module Based Optimization Control
          7.  EXCLUDE LU's from Optimization
          8.  EXCLUDE Modules from Optimization
          9.  SELECT LU's for Optimization
         10.  Trace
         11.  System Options
         12.  Statistics Control
         13.  Display Statistics
         14.  Otto Commands (Compatibility Mode)
          X.  Exit


-----------------------------------------------------------------------
F1=Help    F3=Exit

MA      C                                                        04/014
```

This is the Primary Option Menu which is used to access other menus and panels that allow you to control all optimization features, run traces, and manage system statistics. Available controls enable you to:
- Start or stop CICS OTTO for each component type
- Display and control the image pool size
- Select or exclude specific terminals or modules to optimize
- Dynamically add or remove terminals or modules from optimization in runtime
- Start and stop trace
- Display statistics
The exclude list is used to say that optimization should not be performed on certain logical units because, for example, they are using the session to do a file transfer.
The list of commands end with some statistics to show how well optimization is being performed.

Controls can be set on temporary or permanent basis.

Also, by utilizing the provided user exits it is possible to:
- Use return codes to process specific messages unchanged
- Keep and reinsert message parts after optimization
- Change characters for specific countries.

Controlling Optimization
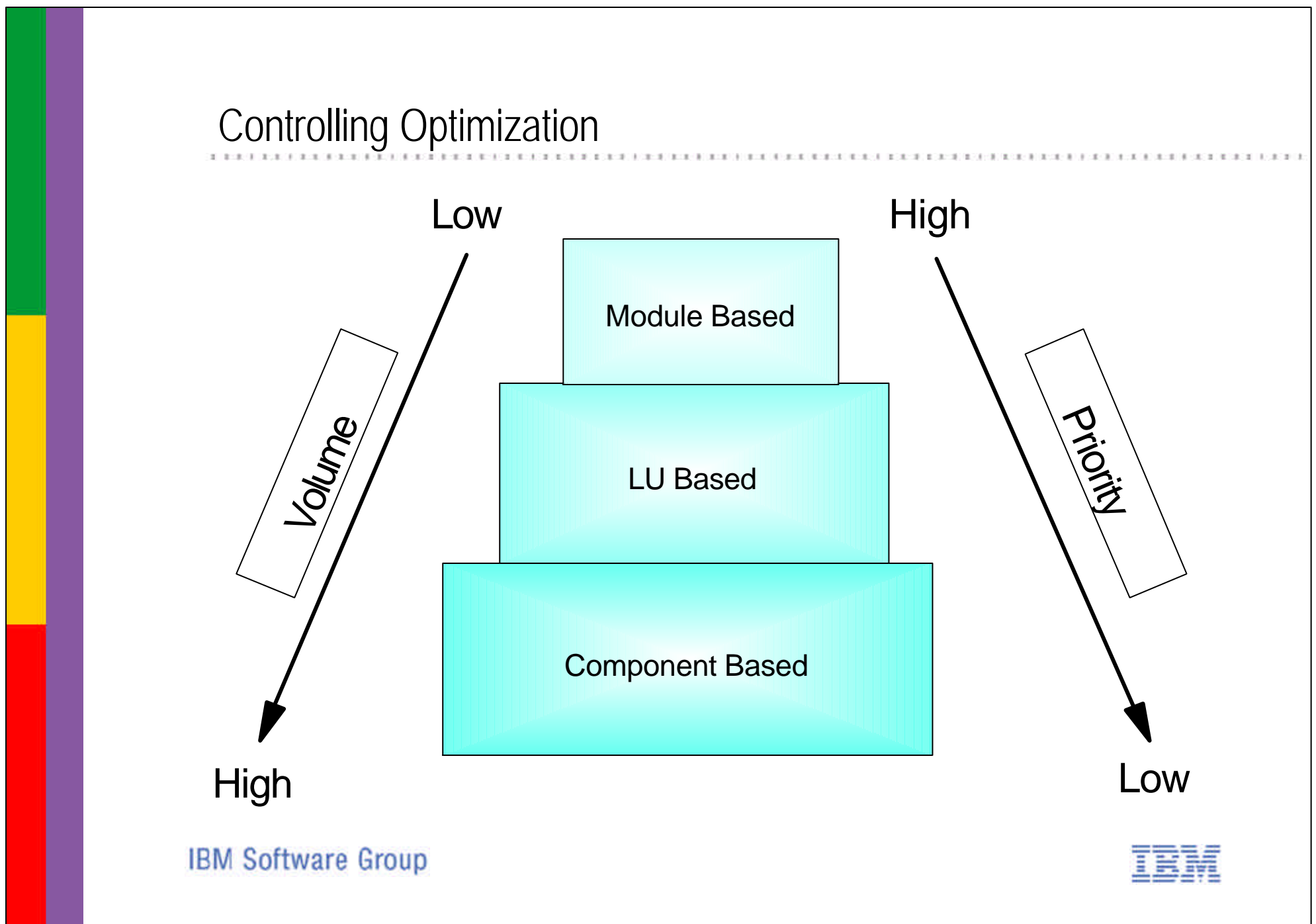
The optimization features of CICS OTTO are controlled based on two different types of start modes:
- Fully started indicates that all logical units (LUs) and modules will be included in optimization except for those which are specifically excluded either because of active LU or module exclusions.
- Selectively started indicates that only those messages which are destined for terminals and/or printers specifically defined in the CICS OTTO selection list will be optimized.
The minimum definitions required are those that define which optimization features should apply to the components. This is called Component Based Optimization. You can go further by defining optimization features that are LU specific and module specific.
LU Based definitions take priority over the Component Based definitions. Module Based definitions take priority over both LU and Component Based definitions. This structure ensures that most of your optimization needs can be handled at the component level.

3270 Component Based Optimization Control

```
 3270 OPT. CONTROL          Otto for CICS V1R1                    OTTOM05


 OPTION ===> _____


 3270 COMPONENT          CURRENT        PERM.        CHANGE        CHANGE
    SETTINGS                                         CURRENT       PERM.
 --------------------    -------       -------       -------       -------
 Imaging                   ON            ON            ___           ___
 Compress images           OFF           OFF           ___           ___
 Lightpen                  OFF           OFF           ___           ___
 3179/3192 C               OFF           OFF           ___           ___
 WCC-ignore                OFF           OFF           ___           ___
 Base color switch         OFF           OFF           ___           ___
 TPX                       OFF           OFF           ___           ___
 Zero MF order allowed     OFF           OFF           ___           ___
 Clear TIOA                OFF           OFF           ___           ___
 Printer linesize          132           132           ___           ___



 ---------------------------------------------------------------------------

 F3=End
```

This Component Based Optimization Control panel is displayed when Option 3 is entered in the Primary Option Menu. It is used to change CICS OTTO's optimization features for all connected 3270 terminals and printers, except for those which have special settings for LU or modules different from the 3270 component values.

3600/SCS Component Based Optimization Control

```
3600/SCS OPT. CONTROL       Otto for CICS V1R1                OTTOM06


OPTION ===> _


3600 COMPONENT          CURRENT       PERM.       CHANGE        CHANGE
  SETTINGS                                        CURRENT       PERM.
------------------      -------      -------      -------       -------
Prime compr. character  X'40'        X'40'        X'__'         X'__'
Input optimization      OFF          OFF          ___           ___
Clear TIOA              OFF          OFF          ___           ___


SCS COMPONENT           CURRENT       PERM.       CHANGE        CHANGE
  SETTINGS                                        CURRENT       PERM.
------------------      -------      -------      -------       -------
SCS linesize            132          132          ___           ___
Opt. as SCS / 3270      SCS          SCS          ___           ___



------------------------------------------------------------------------
F3=End



MA   c                                                          04/014
```

This panel (Primary Option Menu - option 4) is used to change CICS OTTO's optimization features for all of the connected 3600/4700 terminals or SCS printers, except for those which have special settings for LUs or modules different from the 3600/4700 or SCS component values.

LU Based Optimization Control Menu

```
LU BASED OPT. CONTROL          Otto for CICS V1R1                    OTTOM07


OPTION ===> _


          1.   Specify Optimization Values for Specific LU
          2.   Display a List of all LU's with Specific Settings
          3.   Display Active 3270 Terminals
          4.   Display Active 3270 Printers
          5.   Display Active 3600 Terminals
          6.   Display Active SCS Printers


LU-NAME . . _____    For option 1  : input required
                                        full or generic name
                                        (* from position 2 possible)

                        For option 2-6: input optional, default = *
                                        full or generic name
                                        (* from position 1 possible)


-----------------------------------------------------------------------
F3=End


MA    c                                                      04/014
```

This Panel is displayed when Option 5 is entered in the Primary Option Menu. This LU BASED OPT. CONTROL menu is used to select several panels that allow you to view or change CICS OTTO's optimization features for a single LU or a group of specific terminals/printers (LUs) connected to the CICS system.

LU Based Optimization - 3270 Terminals/Printers

```
3270 LU OPT. CONTROL        Otto for CICS V1R1                  OTTOM10


OPTION ===> _____                          NEXT LU . . . . . _____



SETTINGS FOR LU         CURRENT         PERM.        CHANGE      CHANGE
     TC22           (Component values in parenth.)   CURRENT     PERM.
-----------------------------------------------------------------------
Imaging               ON  (ON)       ON  (ON)         ___         ___
Compress images       OFF (OFF)      OFF (OFF)        ___         ___
Lightpen              OFF (OFF)      OFF (OFF)        ___         ___
3179/3192 C           OFF (OFF)      OFF (OFF)        ___         ___
WCC-ignore            OFF (OFF)      OFF (OFF)        ___         ___
Base color switch     OFF (OFF)      OFF (OFF)        ___         ___
TPX                   OFF (OFF)      OFF (OFF)        ___         ___
Zero MF order allowed OFF (OFF)      OFF (OFF)        ___         ___
Clear TIOA            OFF (OFF)      OFF (OFF)        ___         ___




-----------------------------------------------------------------------
F3=End      F4=Return




MA    c                                                      04/014
```

One of the ways to display this panel is to enter option 1 is selected in LU BASED OPT. CONTROL menu. This panel is used to control LU optimization features for 3270.

List of active 3270 terminals

```
LU LIST   (ACT. 3270 TERM.)   Otto for CICS V1R1                    OTTOM08


OPTION ===> _____   DISPLAY CRITERIA *_____    Entries    1 to    1 of    1

                 Selection for LU based optimization control

  LU                   LU                   LU                   LU
  ------------------------------------------------------------------------------
_ TC22












  ------------------------------------------------------------------------------
F3=End     F7=Backward     F8=Forward     F4=Return

MA   c                                                          04/038
```

This is another example of an LU based optimization control. This panel (the list of active 3270 terminals) is displayed if option 3 is selected in LU BASED OPT. CONTROL menu.

Module Based Optimization Control Menu

```
MOD. BASED OPT. CONTROL        Otto for CICS V1R1                    OTTOM09


OPTION ===> _____



              1.   Specify Optimization Values for Specific Module
              2.   Display a List of all Modules with Specific Settings


MODULE . .   _____   For option 1 : input required
                                       Full or generic name
                                       (* from position 2 possible)

                         For option 2 : input optional, default = *
                                        Full or generic name
                                        (* from position 1 possible)




    -----------------------------------------------------------------------
F3=End
```

For modules, the following optimization features may be set:
- Imaging
- Clear Tioa
- WCC-Ignore
- Prime Character
- Lightpen
- SCS Optimization
- Linesize

The highest priority for settings is 1) the module, 2) the LU, and 3) the component.

This means if one or more of the above options is set for a specific module and the setting is different from the component settings or the LU specific settings, the module settings override the messages sent by the specific module destined to the specific LU. All other options which can be set for the component or LU (like TPX, etc.) but not for a module are taken from the component settings or eventually present LU settings.

This Module Based Optimization Control Menu is displayed when Option 6 is entered in the Primary Option Menu.

Module Based Optimization - Optimization Features for Module

```
MODULE OPT. CONTROL        Otto for CICS V1R1                    OTTOM13


OPTION ===> _                          NEXT MODULE . . . _____


Module:   EQA*           CURRENT        PERM.     CHG. CURRENT   CHG. PERM.
--------------------------------------------------------------------------
Imaging                ON  (ON)      ON  (ON)        ___            ___
Lightpen               OFF (OFF)     OFF (OFF)       ___            ___
WCC-ignore             OFF (OFF)     OFF (OFF)       ___            ___
Base color switch         -NA-          -NA-
Printer linesize       132 -NA-      132 -NA-
Prime compr. char.     X'40' (X'40') X'40' (X'40')  X'__'          X'__'
Compress images           -NA-          -NA-
3179/3192 C               -NA-          -NA-
TPX                       -NA-          -NA-
Zero MF order allowed     -NA-          -NA-
Opt. as SCS / 3270     SCS (SCS)     SCS (SCS)       ___            ___
Clear TIOA             OFF (OFF)     OFF (OFF)       ___            ___



--------------------------------------------------------------------------
F3=End     F4=Return



MA    c                                                         04/014
```

This panel can be displayed if module name is entered and option 1 is selected in the Module Based Optimization Control Menu. Here you can change optimization features for the selected module.

Optimization Exclusion and Selection

```
EXCL. LU'S FROM OPT.        Otto for CICS V1R1                    OTTOM14

ABL5001I COMMAND SUCCESSFULLY PROCESSED
OPTION ===> _____        EXCLUDE LU . . . . . . _____        PERMANENT . NO
                                                  ENTRIES    1 TO     1 OF     1

LU         EXCLUDE            INCLUDE    LU        EXCLUDE            INCLUDE
        temp.    perm.    temp.  perm.           temp.    perm.    temp.   perm.
-----------------------------------------------------------------------------
TC32     YES      NO       ___    ___
```

```
-----------------------------------------------------------------------------
F3=End     F7=Backward     F8=Forward     F4=Return
```

```
MA   c                                    A                          04/014
```

As mentioned earlier in this presentation, CICS OTTO has two start modes:

1. FULLY STARTED - When CICS OTTO is FULLY STARTED all messages are included in optimization, except for specific LUs or modules that are excluded from the optimization process.

2. SELECTIVELY STARTED - When CICS OTTO is SELECTIVELY STARTED, the only messages that are optimized are those destined for specifically selected LUs that are included in the optimization process.

It is possible to exclude LUs and modules from the FULLY STARTED mode using options 7 and 8 in the Primary Option Menu and selectively include LUs when the SELECTIVELY STARTED mode is used choosing option 9 in the Primary Option Menu.

This screen is a result of selecting option 7 to bring up Exclude LU from Optimization panel and typing EXCLUDE TC32 in that panel.

Module Exclusion panel looks similar. You can exclude modules and transactions by transaction ID.

Operating CICS OTTO - Status

```
START / STOP              Otto for CICS V1R1                    OTTOM02


OPTION ===> _


                          Valid Input for Status:   1 - START FULL
                                                     2 - START SELECTED
                                                     3 - STOP


COMPONENT     CURRENT          PERMANENT        CHANGE CURRENT  CHANGE PERM.
              Status           Status           Status          Status
---------     -------------    -------------    --------------  -----------

  3270        FULLY STARTED    FULLY STARTED         _              _

  SCS         FULLY STARTED    FULLY STARTED         _              _

  3600        STOPPED          STOPPED               _              _



------------------------------------------------------------------------
F3=End



MA   c                                                          04/014
```

This START/STOP Panel (Primary Option Menu - option 1) displays the current optimization status for each component and provides you with the option to change this status.

CICS OTTO System Options

```
SYSTEM OPTIONS               Otto for CICS V1R1                    OTTOM16


OPTION ===> _____


SYSTEM OPTION          CURRENT       PERM.     CHANGE CURRENT      CHANGE PERM.
--------------------------------------------------------------------------
Katakana support         NO           NO           ___              ___
User exit active         NO           NO           ___              ___
Name of user exit      -NA-         -NA-          ___ (SUFFIX)     ___ (SUFFIX)
Application-ID       IYCLZCOD                     _____          _____
Otto mod's loaded        NO           NO           ___              ___
Date formatting       EUROPEAN     EUROPEAN        _  A,E,J          _  A,E,J

                                                            A = American
                                                            E = European
                                                            J = Julian

STATUS OF OTTO   CONTROL FILE:
------------------------------
CLOSE                                    CLOSE CONTROL FILE . . . ___    YES


--------------------------------------------------------------------------
F3=End
```

Here you can define general processing parameters, such as date format, exit support, etc. This System Options panel is displayed when option 11 is entered on the Primary Option Menu.

Controlling Image Pool Size

```
IMAGE POOL                    Otto for CICS V1R1                    OTTOM04


OPTION ===> _

                              Image Pool Statistics

Number of slots generated . : 00020      Shortage deletions . : 00000
Number of slots in use  . . : 00003      Delete requests  . . : 00000
Average image length  . . . : 02503 Bytes   Image not saved  . . : 00000
Length of longest image . . : 02892 Bytes   Image not found  . . : 00003
Length of shortest image  . : 01992 Bytes


POOL SIZE SETTINGS            CURRENT    PERMANENT        CHANGE PERM.
-------------------           ---------  ---------        -------------
Total pool size in KB         00020      00020            _____
Slot size in Bytes             1024       1024            _____



------------------------------------------------------------------------
F3=End

IE
MA   C                                                      04/014
```

This panel is used to display and change the size of CICS OTTO's image pool. The image pool is allocated in the private area above 16MB. Imaging means a copy of each screen is kept in main storage. CICS OTTO's image tool is used for this. Imaging starts with the first outbound message written by the application with an ERASE/WRITE. All of the following messages that are destined to the same terminal will be compared with the existing data in the screen image and only changed data and attributes will be transmitted after the optimization process. Consequently, the screen image is updated with the new data and attributes.

The IMAGE POOL panel is displayed when option 2 is entered on the PRIMARY OPTION MENU.

CICS OTTO Trace Control

```
TRACE CONTROL                 Otto for CICS V1R1                    OTTOM15


OPTION ===> _____


         1. Start Trace  . . . . for . . .
         2. Start Internal Trace for . . . _  1. All 3270 LU's
         3. Stop Trace                        2. All 3600 LU's
                                              3. All SCS Printers
                                              4. Specific or Generic LU-name
                                              5. Specific or Generic Module-name
                                              6. All LU's
MODULE(S) OR LU(S) . . . . . . .  _____ _____ _____ _____
                                  _____ _____ _____


ID . . . . . . . . . . . . . .  01
PAGESIZE . . . . . . . . . . .  60
TITLE  . . . . . . . . . . . .  _____


TRACE IS CURRENTLY  STOPPED

Line count:                    Entry count:
-------------------------------------------------------------------------
F3=End
```
```
MA    c                                  A                          04/014
```

Message traces can be produced before and after each optimization for LUs and modules.
Traces may be useful for error determination.
The TRACE CONTROL panel is displayed when option 10 is entered on the PRIMARY
OPTION MENU.

CICS OTTO Statistics

The following different kinds of optimization statistics are provided:

- Overall Statistics
  - ► Graphical summary of optimization results for all LUs, online only
- Component Based Statistics
- LU Based Statistics
  - ► Always active, only available online
- Module Based Statistics
  - ► Used to find modules/transactions with low optimization ratio
- The statistics can be:
  - ► Viewed using the CICS OTTO panels
  - ► Written to the OTTOSTAT file for printing on demand
  - ► At CICS shutdown, statistics are automatically written to the OTTOSTAT

IBM

Optimization results can be viewed and analyzed using CICS OTTO's statistics. These statistics show how many messages have been optimized and how many bytes have been saved during the optimization process. If CICS OTTO is fully started, all messages are counted except those for which an LU or module exclusion was active. If CICS OTTO is selectively started, only the messages destined to those LUs which are in CICS OTTO's selection list are counted.

The following different kinds of optimization statistics are provided:

- Overall Statistics: provide a graphical summary of all optimization results for all LUs; 3270, SCS and 3600. This information is provided only online.
- Component Based Statistics: show counters for message optimization and saved bytes, as well as total reduction expressed as a percentage. For the 3270 component, these statistics are separated by terminal statistics (T3270) and printer statistics (P3270).
- LU Based Statistics: always active. However, these are available only online. Statistical information can be obtained for a single LU, for a group of LUs qualified by a generic name, or different LU types.
- Module Based Statistics: an option allows accumulation of module statistics the same as for LUs. The module name is obtained from CICS PCTIPIA, if available. Otherwise, the PCTTI is used if the transaction name was generated. Module based statistics are available only if they have been explicitly activated.

Module statistics should only be used to figure out modules/transactions that have a low optimization ratio. Module statistics cause CPU overhead. Therefore, you may wish to exclude modules with a low optimization ratio. Statistical data may be collected for a list of predefined modules by starting the module statistics selectively or for all modules by starting them fully.

CICS OTTO Statistics Control

```
STATISTICS CONTROL          Otto for CICS V1R1                    OTTOM17


OPTION ===> _____

            1.  Clear Otto for CICS Image Pool Statistics
            2.  Clear all LU and Module Statistic Values
            3.  Clear all LU Statistic Values
            4.  Clear all Module Statistic Values
            5.  Clear all 3270 Statistic Values
            6.  Clear 3270 Terminal Statistic Values
            7.  Clear 3270 Printer Statistic Values
            8.  Clear 3600 Statistic Values
            9.  Clear SCS Statistic Values
           10.  Clear Statistics of Specific LU          LU . . . .  _____
           11.  Clear Statistics of Specific Module      MODULE . .  _____
           12.  Start Module Statistics for all Modules
           13.  Start Module Statistics for Selected Modules
           14.  Stop Module Statistics
           15.  Exclude Modules from Statistics
           16.  Select Modules for Statistics
           17.  Control Size of Control Blocks for Module Statistics
      ---------------------------------------------------------------------
      F3=End



MA   c                                  A                            04/014
```

The STATISTICS CONTROL menu is displayed when option 12 is entered on the PRIMARY OPTION MENU.

STATISTICS CONTROL panel can be used to issue commands and define variables that control the statistical information that is gathered. Such controls include:

- Clearing statistics. This means set all counters to zero.
- Starting statistics for all or specific modules.
- Stopping module statistics.
- Selecting modules for the statistics.
- Excluding modules from the statistics.
- Changing the restricted size of the module statistics in main storage.

Displaying Statistics

```
DISPLAY STATISTICS MENU     Otto for CICS V1R1                 OTTOM19


OPTION ===> _____



           1. Display LU Statistics Summary
           2. Display 3270 Statistics
           3. Display 3270 Terminal Statistics
           4. Display 3270 Printer Statistics
           5. Display 3600 Statistics
           6. Display SCS Statistics
           7. Display Statistics of Specific 3270 Terminal(s)  . . _____
           8. Display Statistics of Specific 3270 Printer(s) . . . _____
           9. Display Statistics of Specific 3600 Terminal(s)  . . _____
          10. Display Statistics of Specific SCS Printer(s)  . . . _____
          11. Display Statistics of Specific Module(s) . . . . . . _____




          ---------------------------------------------------------------

F3=End

MA   c                                    A                        04/014
```
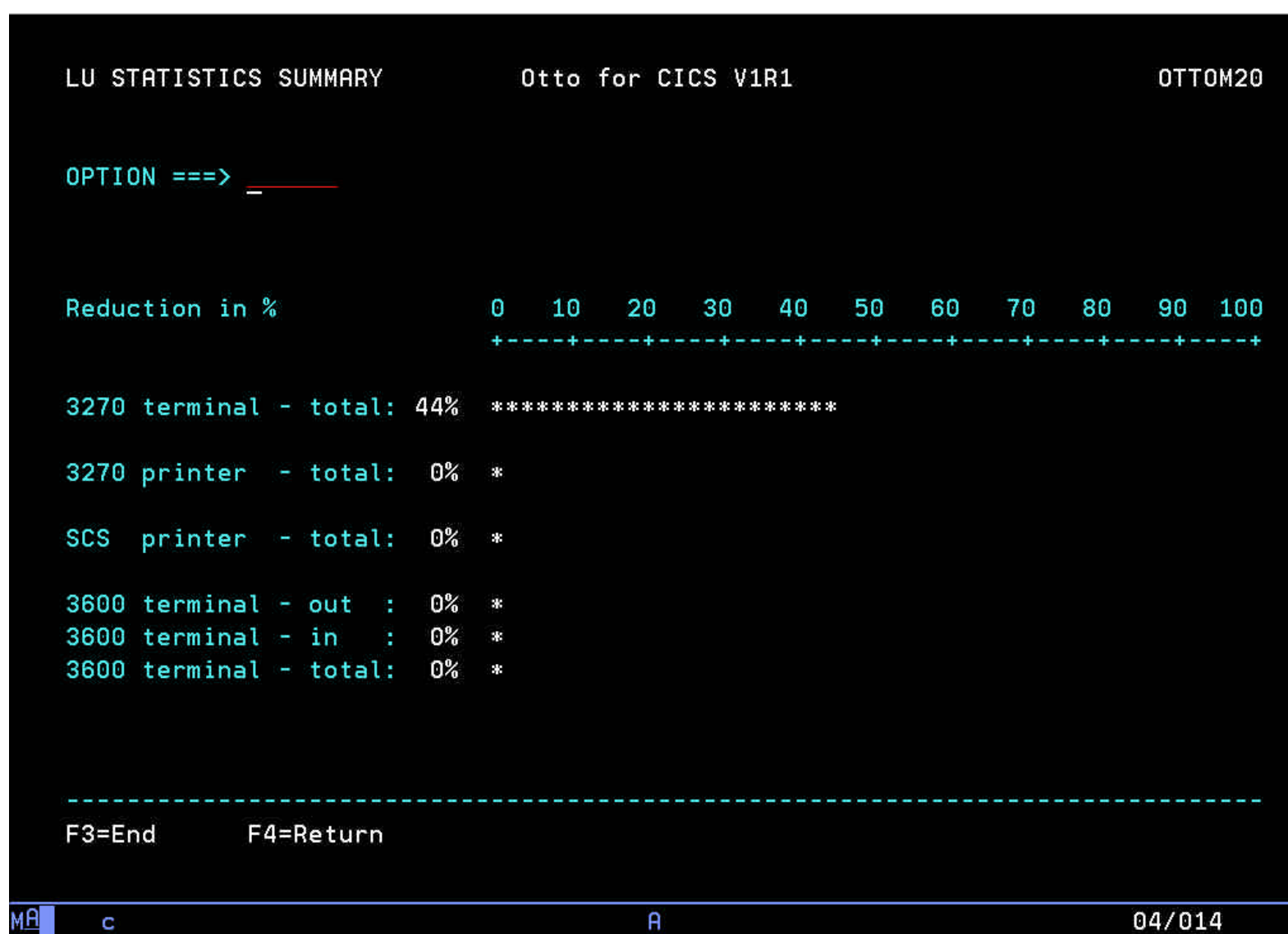
Statistics can be accessed using the DISPLAY STATISTICS MENU. This menu is displayed when option 13 is entered on the PRIMARY OPTION MENU.

CICS OTTO - LU Statistics Summary

```
LU STATISTICS SUMMARY         Otto for CICS V1R1              OTTOM20


OPTION ===> _____



Reduction in %              0   10   20   30   40   50   60   70   80   90  100
                            +----+----+----+----+----+----+----+----+----+----+

3270 terminal - total: 44%  ***********************

3270 printer  - total:  0%  *

SCS  printer  - total:  0%  *

3600 terminal - out  :  0%  *
3600 terminal - in   :  0%  *
3600 terminal - total:  0%  *



-------------------------------------------------------------------------------
F3=End      F4=Return

MA   c                                   A                          04/014
```

In this screen you can see a simple graph showing the LU Statistics Summary. In this example the 3270 data streams are being reduced by 44%.

Component Statistics

```
COMPONENT STATISTICS          Otto for CICS V1R1                    OTTOM21


OPTION ===>  _____

                       Statistics for all 3270 LU's


From        20-12-2001 11-12-25   to ********** ********

                                 COUNT           OPTIMIZED       PERCENTAGE
                          ----------------  ----------------  ----------
Number of output messages  . :              99                98       98%


                              COUNT BEFORE     COUNT AFTER    REDUCTION
                          ----------------  ----------------  ----------
Number of output bytes . . . :        129.245          72.195       45%




          -----------------------------------------------------------------
F3=End      F9=Write Statistics to OTTOSTAT or Console      F4=Return
```

These statistics for 3270's show that 98% of messages have had some optimization performed on them (98 messages out of the total of 99 messages sent from CICS). The second line shows that the number of characters transmitted is 72,195 with an input to the optimizer of 129,245. A reduction of 45% has been achieved.
Option 2 has been selected in the Display Statistics Menu to display these statistics.

CICS OTTO Native Commands

```
 IYCLZCOD            Online Transmission Time Optimizer V1R1        0601/01320
                  Copyright Software Engineering GmbH, 1987 - 2001

 ---LU---  --DATE--  --TIME--  INEX  POOL  EXIT  CTR  TRACE   --3270--  --SCS---  --3600--
 TC22      20-12     12-39-39  LU-Y  15%   -NA-  VSM  SEQ     FULL      FULL      STOPPED
           2001                MO-N                   OFF     OUTIMAGE  OUT       OUT
                               SE-Y


                              LU Statistics Summary


 COMPONENT REDUCTION 0    10   20   30   40   50   60   70   80   90   100
                     +----+----+----+----+----+----+----+----+----+----+


   T3270-O    46%    ************************


   P3270-T    0%     *
    SCS       0%     *
   3600-O     0%     *
       -I     0%     *
       -T     0%     *


 OTTO COMMAND ===>  _                                                  F3=END
```
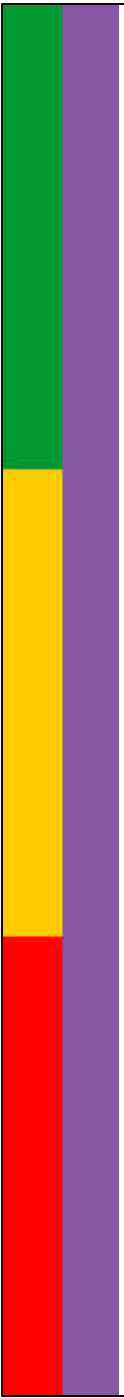
If you want to use CICS OTTO's native commands, enter the Compatibility Mode by selecting option 14 on the PRIMARY OPTION MENU.

CICS OTTO - Summary

- Provides CICS customers with key optimization functions
  - ▶ reduces network workload
  - ▶ system and end-user response time improvement
  - ▶ better use of existing network resources
- Easy to install, customize and use
- Detailed statistics
- Affordable
  - ▶ cost competitive
  - ▶ driving down cost of enterprise computing
- IBM's long term commitment and excellent support

IBM Software Group

IBM

CICS OTTO focuses on providing low cost basic compression and optimization of CICS 3270 and LU type 2 outbound data streams. It is a CICS specific solution designed to help lower the cost of CICS network operations. It provides the basic services in a simple and easy to use package.

Appendix

References

Bibliography:

CICS Online Transmission Time Optimizer for z/OS User's Guide, SC34-6104
Systems Network Architecture: Sessions Between Logical Units, GC20-1868

Useful URLs:

Useful Runtime Tools WEB Sites:
http://ibm.com/cics/
http://ibm.com/cics/library/
http://ibm.com/software/data/db2imstools/
http://ibm.com/s390/rmf/
http://ibm.com/s390/wlm/
http://www.storage.ibm.com/software/sort/srtmhome.htm

Useful AD Tools WEB Sites:
http://ibm.com/software/ad/faultanalyzer/
http://ibm.com/software/ad/filemanager/
http://ibm.com/servers/eserver/zseries/dt/
http://ibm.com/software/network/tpns/

IBM Software Group

IBM