SYSTP Functions under CICS

Under CICS, SYSTP provides the following environment-dependent functions:

- Natural User Sessions
- Natural Roll Facilities
- Natural Thread Groups
- Natural Storage Threads
- NCI Global System Information
- NCI Generation Options
- Natural Thread Group Definitions
- Own Natural User Session
- CICS Task Information
- System Administration Facilities
- Applied NCI ZAPs

For many of the screens accessible from this menu, the first column contains an input field labeled **M** for Mark. For all such screens, the following codes are valid input. Enter the code in the Mark field to perform the function described.

Code	Function
.	Exit screen and return to previous level
/	Position line to top of screen
P	
S	Display detailed information on selected line

Help information can be invoked for each function by pressing PF1.

If you enter a question mark (?) in the command line, all direct commands available within the SYSTP utility under CICS are displayed.

Natural User Sessions

This function displays an overview of user sessions in the Natural environment.

For each session, the following information is displayed:

TID	Terminal ID unique within CICS.
User ID	User ID used to sign onto CICS.
Tran	CICS transaction ID under which Natural session is currently running. For pseudo-conversational sessions, this is the pseudo-conversational restart transaction code.
Start Date/Time	Starting date and time of the Natural session.
Last Act	Time of last screen output.
Status	User work area status.
Program	The Natural program currently active.
Logon ID	The Natural library in which the user is currently working.

If you press PF10, the display of the session date and time is replaced by the following session resource data:

Thrd Grp	Thread group to which user is assigned.
Thread	Name of thread last used.
Roll Fac	Assigned roll facility.

The first column of the screen is an input field labeled **M** for Mark. In this field, you can enter any one of the following codes:

Code	**Function**
C	Cancel session. At next input, session is terminated and user is informed.
F	Flush session. Session is terminated at once. Session is marked and labeled with operational status Purged by Administrator and resources are made available to other users immediately.
R	Reactivate session. This function can be used to reverse the cancelling of a session if user has not entered input.

User Session Statistics

For each session displayed in the user session screens shown above, additional information can be displayed by invoking the screen Natural User Session Statistics. This screen is invoked by either placing the cursor in the Mark field for a session and pressing PF4 or entering code **S** or **U** in the Mark field for a session and pressing ENTER.

The Natural User Session Statistics screen is displayed, showing the following information for each user session:

Note:
All sizes on the Natural User Session Statistics screen are in KB unless otherwise indicated in the field descriptions below.

Session Start	Day, date and time when the session was started.
Last Actions	Date and time the user was active last.
User	ID of the user (*USER).
Terminal	ID of the terminal associated with the Natural session (*INIT-ID).
Transid	(Pseudo-conversational) transaction ID under which Natural is running.
Cur Strg Used	Current amount of storage used by this session.
Max Strg Used	Maximum amount of storage ever used by this session.
Common Thread Size	This group’s common thread size.
Thread Group	Name of the associated Thread group (triggered by starting the transaction ID).
Max Strg Used	Maximum amount of storage ever used by any user in group.
Thread Size	Size of this thread.
Thread Name	Name of the thread used last. For threads allocated via GETMAIN, the thread name is composed of the prefix NSCP followed by the terminal ID.
Max Strg Used	Maximum amount of storage ever used in this thread.
Natural Logon ID	Natural application ID (*LIBRARY-ID).
Natural Program	Name of the Natural program currently used by the session (*PROGRAM).
Operational Status	See the table below.
Session Resumes	Total number of session resumes.
Swap-Ins	Number of session resumes with swapping in from swap pool.
Thread Switches	Number of session resumes with swapping/rolling into a thread which is different to the one the session had been in before.
Roll-Ins	Number of session resumes with rolling in from roll facility.
Roll Facility	Name of associated roll facility.
Roll Recs (Last)	Number of records written to roll facility for last roll-out.
Roll Recs (Max)	Maximum number of records ever written during roll-out.
Roll Record Size	Record size of this roll facility.
Slot Size	Number of records required to roll-out a thread completely.
Restart Rec. No.	Number of the record that contains roll-out control information; this record must be rolled in first.
Compressed Length	Amount of relevant storage currently swapped/rolled out.
Slot Number	Number of slot in VSAM roll file belonging to this session (for VSAM only).

VSAM Roll Files

The following information applies to VSAM roll files only:

The relationship between restart record number (RecNum), slot number (SN) and slot size (SZ) is:

RecNum = (SN-1) * SZ + 2 or **SN = (RecNum-2) / SZ + 1**

A session can assume the following operational states:

Status	Abbreviation	Description
Active	Act	Currently active
Inactive	Ina	Inactive, still in thread
Swapped	Swp	Swapped, in swap pool
Rolled out	Rld	Rolled out, in roll facility
Wait (Init)	WtI	Waiting for thread on session initialization
Wait (Resume)	WtR	Waiting for thread on session resume
Initializing	Int	Initializing session
Resuming	Res	Resuming session, in thread, not active yet
Suspending	Sus	Suspending session
Terminating	Trm	Terminating session
Swapping out	Swo	Session swapping out
Swapping in	Swi	Session swapping in
Rolling out	Out	Rolling out from thread or swap pool
Rolling in	In	Rolling in from roll facility

The following additional information can appear in the status line:

Status	Description
Conversational	Dialog-oriented session (PSEUDO=OFF) as opposed to pseudo-conversational/transaction-oriented session.
Forced Conversational	Last screen I/O of a PSEUDO=ON session was conversational.
No-Roll	Session is not allowed to roll.
Compressed	Session is compressed (in swap pool or roll facility).
Thread Switched	The thread currently used is not the same as used before.
Thread Locked	Session kept from switching threads (for example, RELO=OFF); may also force No-Roll/Conversational status.
Purged by Administrator	Session cancelled by administrator (flag set).
Spool Task	The task is a spool/print task.
Asynchronous Task	The task is an asynchronous task, not bound to a terminal.

Natural Roll Facilities

This function is used to display which swap files are available for rolling out user work areas to make room in the swap pool for active users. These swap files are known as *roll facilities*.

When you invoke this function, the Natural Roll Facilities screen appears, displaying the following information for each roll facility:

Facility Name	TEMPSTOR is used for auxiliary temporary storage, MAINSTOR for main temporary storage, and remaining file names are VSAM roll files as defined in the CICS file control table (FCT).
Record Size	Record Size of this roll facility.
Slot Size	Number of records required to roll out a thread completely (maximum thread size divided by record size, rounded up).
No. of Slots	Number of sessions which fit into this roll file (number of file records divided by slot size, rounded down); applies to VSAM roll files only.
Facility Users	Current/maximum number of user sessions assigned to this roll facility.
Roll Counts	Number of session roll operations into or from this roll facility.
Status	Indicates Full if the facility users equal the number of available slots.

Natural Thread Groups

This function is used to display which thread groups are available to Natural.

For each thread group, the following information is displayed:

Group Name	Thread group name.
Group Users	Current and maximum number of users assigned to this thread group.
Thread Type	SHR Permanent threads allocated via GETMAIN SVC or CICS GETMAIN SHARED are used. GETM Threads allocated via GETMAIN are used. none No threads are used by transactions defined in this thread group, GETMAINs are passed to CICS.
TCBs	Maximum number of sessions concurrently active.
Thread Size	Thread group's common thread size.
Strg Used	Maximum storage allocated to any thread in this group.
Queue Sizes	The current and maximum queue size for the thread group's central wait queue and the number of times the maximum was reached. Only applies if the parameter THREADS has been defined as greater than zero for this thread group.
VSAM/Aux/Main	Roll facilities defined for group; TEMPSTOR always backs up VSAM if VSAM roll files are not available or full.

To display additional information on a thread group, enter one of the following codes in the Mark field or place the cursor in the Mark field and press the appropriate PF key:

Code	Key	Function
T	PF10	Display program storage threads in thread group.
D	PF11	Display thread group definition.

Natural Storage Threads

This function is used to display information on the storage threads in the Natural environment.

For each thread, the following information is displayed:

Thread Name	Name of the thread.
Grp No.	Number of the group to which this thread belongs.
Thrd Size	Usable Thread size.
Strg Used	Maximum amount of storage ever used in this thread.
Use Count	Number of times this thread has been selected for processing.
Roll-Ins	Logical: Session resumes. Physical: Roll-in from roll facility.
Queue Sizes	Current number of users queuing on thread. If this number *n* is greater than 1, *n* minus 1 users are waiting; maximum queue count for this thread; number of times at maximum.
Term ID	Terminal ID belonging to the Natural session whose data are in thread.
Task No.	ID of CICS task currently active in this thread. If no ID is displayed, no session is active is this thread.

To display additional information on a thread group, enter one of the following codes in the Mark field or place the cursor in the Mark field and press the appropriate PF key:

Code	**Key**	**Function**
G	PF10	Display thread group.
D	PF11	Display thread group definition.

NCI Global System Information

This function is used to display data on the system directory.

When you invoke this function, a screen with the following information is displayed:

Natural User Sessions	Current and maximum number of Natural sessions in the system.
Concurrent SCP Active	Current and maximum number of concurrent system control program (SCP) requests (INIT/SUSP/RESM/TERM).
SIR Block Extensions	Current and maximum number of local SIR block extensions.
Slots in 1st SIR Block	Number of user sessions which fit into the primary user control block (first USERS subparameter in NCMDIR macro).
Slots in SIR Blk. Extns.	Number of user sessions which fit into a secondary user control block (second USERS subparameter in NCMDIR macro).
VSAM Roll File Slots	Number of VSAM roll files to check (ROLLFLS).
Possible Roll Facilities	Number of VSAM roll files plus two for CICS TEMPSTOR.
Thread Groups	Number of thread groups determined by evaluating all NCMTGD macro specifications at system startup.
System Recoveries	Number of corrections of statistics counts and/or control block chain.
Size of DIR Extension	Number of bytes used at system startup for thread control blocks and VSAM roll file online directories.
Available Resources	Type, size (in KB), definition - as a program or via GETMAIN (GETM) - and location (below or above the 16 MB line) of all supported buffer pools.
Max Thread Size	Largest thread size across all valid thread groups.
VSAM Roll Files	Indicates whether VSAM roll files are available; that is, existing in VSAM, formatted and defined in the CICS FCT.
Aux TempStor	Indicates whether CICS auxiliary temporary storage is available for the Natural/CICS roll facilities.
Main TempStor	Indicates whether CICS main temporary storage is available for the Natural/CICS roll facilities.
Session Destination	Indicates whether the Natural/CICS log destination (as defined with the LOGDEST parameter of the NCMPRM macro) is defined in the CICS DCT (destination control table) and available.
Message Logging	Indicates whether the Natural/CICS error message destination (as defined with the MSGDEST parameter of the NCMPRM macro) is defined in the CICS DCT and available.
Message Switching	Indicates whether the message switching transaction ID (as defined with the MSGTRAN parameter of the NCMPRM macro) is available and a valid transaction code. Note: If this transaction code is not available, a SYSTP session flush is not possible.
Trace Active	Indicates whether the Natural/CICS trace function is currently active; see also System Administration Facilities.

NCI Generation Options

This function is used to display generation parameter settings for Natural running under CICS. The values of these parameters are determined in the macro NCMPRM, which is part of the Natural/CICS parameter module created during installation.

When you invoke this function, an overview of the generation option settings for Natural will be displayed.

Behind each parameter setting in the Generation Options screen is a parameter of the NCMPRM macro. These parameter names can be viewed by pressing PF10. Use PF10 to toggle between the screen containing the parameter names and explanations of the parameters.

Natural Thread Group Definitions

This function is used to display Natural thread group definitions.

For each thread group definition, the following information is displayed:

Grp No.	Thread group number.
Group Type	Type of group definition: SHR Permanent storage threads to be used/loaded for thread group. GETM Storage threads to be GETMAINed (AMODE31-eligible operating systems only). NONE No threads to be used; all Natural storage requests are passed to CICS. ALIAS Thread group redefinition to assign other primary roll facility triggered by transaction code/task request key.
Roll Fac.	Primary roll facility assigned: VSAM, TEMPSTOR, MAINSTOR or "none".
Thread Size	Thread storage GETMAIN size (for thread group types GETM and SHR).
No. Thrds.	Maximum number of Natural sessions concurrently active in this thread group.
Transaction Codes	As defined in CICS PCT.
Task Request Keys	As defined in CICS PCT.

Own Natural User Session

This function displays data about your current Natural session.

The output is the same as the one for the function User Session Statistics.

CICS Task Information

This functions displays status information on the Natural task in a CICS environment.

System Administration Facilities

This function is used to access facilities for debugging and tracing.

When you invoke this function, a menu is displayed which offers you the following functions:

- Trace Facilities (reserved for future use),
- Debugging Facilities (reserved for future use),
- System Snapshot for Logging,
- Reset System Highwater Marks.

System Snapshot for Logging

This function provides complete SYSTP batch reports (see also SYSTP in Batch Mode) with information on all SCP facilities, regardless of whether they have been used or not. Such facilities are:

- thread groups,
- TYPE=SHR threads,
- roll facilities.

All this information is logged to the Natural/CICS log file (if available).

Reset System Highwater Marks

This function comprises the system snapshot function previously described. In addition, all system highwater marks can be reset, for example:

- the number of user sessions,
- every thread group and roll facility,
- the number of UCB block extensions,
- the amount of storage,
- all thread groups and TYPE=SHR threads,
- all wait queue values and counts,
- all roll facility roll counts.

Applied NCI ZAPs

This function displays the numbers of all ZAPs that have been applied to the current Natural TP environment.

