



e-business

CICS Transaction Server for z/OS Version 2

Changes to the
SIGNON Command





e-business

Changes to CICS SIGNON Command

User related state information

Purpose of SIGNON command

New versus Old behavior

*Examples of how the old behavior could be inconsistent -
and might not achieve what you might wish!*

Applications that may be affected

SIGNON migration aid



e-business

User related state information

USERID and user related information (OPID, national language, User name) is ALWAYS tied together as a set

TERMINAL state...

- INQUIRE TERMINAL provides access to
USERID, OPERID, NATLANG, USERNAME
- Note, no access to the ACEE

TASK state...

- ASSIGN provides access to
USERID, OPID, NATLANGINUSE, USERNAME, OPCLASS
- ADDRESS provides access to the ACEE



e-business

Version-to-Version Changes

Pre CICS/ESA V4.1

- USERID associated only with terminal
- Access checks, function shipping, RMI derived USERID from terminal
- INQUIRE principal facility and ASSIGN give same results

In CICS TS V1 (all releases)

- USERID associated with task as well as terminal
- USERID in terminal and task changed by SIGNON/SIGNOFF
- Access checks, function shipping, RMI derive USERID from task
Always equals value in principal facility
- INQUIRE principal facility and ASSIGN give same results

In CICS TS V2 (with new behavior)

- USERID in terminal (but not task) changed by SIGNON/SIGNOFF
- Access checks, function shipping, RMI derive USERID from task
Not always equal to value in principal facility)
- INQUIRE principal facility and ASSIGN may give different results



e-business

Purpose of SIGNON command

Application Programming Reference...

SIGNON associates the security capabilities and operator characteristics of the specified user with the **terminal** associated with the issuing transaction. It allows you to sign on to all types of terminal, with the exception of APPC. SIGNON signs on to the **terminal** or principal facility associated with the issuing transaction.

- SIGNON is a terminal related command
 - ▶ INVREQ if no terminal
 - ▶ Stores security identity to be stored in the terminal state
- Provided to allow customized signon programs.
- Invocation of applications without a terminal require other mechanisms to establish the security identity

The IBM logo, consisting of the letters 'IBM' in a bold, sans-serif font, with horizontal lines through the letters.



e-business

Old behavior versus New

Old implementation...

- **establish validity of userid, password and other parameters**
- **set USERID in Terminal (TCTTE/SNEX)**
 - for subsequent task attaches
- **update USERID in current task (USXM token)**
 - for subsequent identity queries in this task

Consequence

- **USERID may vary during the lifetime of a task**
 - but may **NOT** be consistent in all components



e-business

Old behavior versus New

New implementation...

- **establish validity of userid, password and other parameters**
- **set USERID in Terminal (TCTTE/SNEX)**
 - for subsequent task attaches
- **update USERID in current task (USXM token)**
 - for subsequent identity queries in this task

Consequences

- **USERID in task is invariant for the life of the task**
 - determined at attach time
- **USERID in terminal may be different from that in the task**



e-business

Old behavior inconsistencies

Some components may cache the USERID

- **Signon changes Transaction Manager state but there is no protocol to propagate the change to other components**
 - Such as databases, APPC partners, etc.
- **Signon change will affect the component *only* if it has not taken a copy of the original USERID**

The IBM logo, consisting of the letters 'IBM' in a bold, sans-serif font, with horizontal lines through the letters. It is positioned in the bottom left corner of the slide.

IBM



e-business

Old Behavior inconsistency examples

File Control

- **Copy of the USERID taken on first reference to each file in each UoW**
- **Signon in the middle of a stream of commands does not affect access to files already touched**

Function-shipping

- **USERID of mirror task unaffected by change due to signon**

Resource Managers

- **Assume USERID invariant so only take notice in start-of-task TRUE call or on first reference**

Note SIGNON not permitted for transaction routing (except for CRTE)



e-business

Alternative Designs

- **Introduce protocol to make Signon 'work properly'**
 - Make CICS components (e.g. file control) aware of change of identity
 - Fixing MRO and APPC much harder!
 - Fixing RMI and databases - practically impossible!!

- **Make SIGNON 'work' under some circumstances**
 - Could it be allowed on unit-of-work boundaries?
 No - some components cache the USERID for the task
 - Could it be allowed if 'nothing significant' had happened yet?
 No - how is 'significant' defined, how is it checked for?

(Incidentally, EJB spec prohibits changes of security context during transactions)



e-business

Applications that may be affected

Transactions that use SIGNON and also reference resources such as file control, databases...

- **Currently subject to the old inconsistencies**
- **What was the intended behavior?**

Transactions that SIGNON and then use ASSIGN USERID / OPID / etc.

- **ASSIGNed values will not reflect the intended change**

Note that dedicated signon transactions whose sole purpose is to perform a SIGNON, for example as the first step in a pseudo conversation, will be unaffected





e-business

SIGNON Migration Aid

If your applications are affected, then you may require time to migrate them

A global user exit is provided to restore the old behavior - XSSEX

- enabled by a supplied sample PLT program - DFH\$SNPI
- sample exit program (DFH\$SNEX) restores old behavior for all transactions
- can be tailored to selectively restore the behavior

This is a temporary facility that will be withdrawn!